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UNIVERSITY OF TEXAS PUBLICATION

NO. 4519

MAY 15, 1945



GRADUATE SCHOOL
CATALOGUE NUMBER: PART VII
1941-1942, 1942-1943, 1943-1944, 1944-1945

With Announcements for
1945-1946 and 1946-1947

CATALOGUE

The following bulletins comprise the Catalogue of the University; bulletin number and date of issue are given in parentheses:

1. Part I: Fellowships, Scholarships, Tutorships and Assistantships, Prizes, Loan Funds, Main University (No. 4403: January 15, 1944).
2. Part II: College of Pharmacy (No. 4408: February 22, 1944).
3. Part III: School of Business Administration (No. 4410: March 8, 1944).
4. Part IV: College of Engineering (No. 4412: March 22, 1944).
5. Part V: General Information, Main University (No. 4516: April 22, 1945).
6. Part VI: College of Arts and Sciences and College of Education (No. 4517: May 1, 1945).
7. Part VII: Graduate School (No. 4519: May 15, 1945).
8. Part VIII: School of Law (No. 4529: August 1, 1945).
9. Part IX: Medical Branch (No. 4511: March 15, 1945).*
10. Part X: College of Fine Arts (No. 4528: July 22, 1945).
11. Part XI: Institute of Latin-American Studies (No. 4523: June 15, 1945).

GENERAL PURPOSE OF THE CATALOGUE

The Catalogue Parts of the Main University are intended to give general information, to record the work of the biennium about to close (except Part V), and to make announcements for the ensuing period specified in each case.

As to the courses to be offered the following Long Sessions, the Catalogue contains only a preliminary announcement and is superseded by the *Final Announcement of Courses*, printed in the fall of each year.

The Catalogue contains the official regulations. Except as to degree requirements, these regulations are not valid beyond the period specified on the cover page.

*Part IX, catalogue of the Medical Branch, is distributed by the office of the Dean of the Medical Branch, Galveston.

The University of Texas Publication

No. 4519: May 15, 1945

GRADUATE SCHOOL

Catalogue Number: Part VII

1941-1942, 1942-1943, 1943-1944, and 1944-1945

With Announcements for
1945-1946 and 1946-1947

(Issued February 28, 1947)



PUBLISHED BY THE UNIVERSITY FOUR TIMES A MONTH AND ENTERED AS
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UNIVERSITY OF ILLINOIS

The benefits of education and of useful knowledge, generally diffused through a community, are essential to the preservation of a free government.

Sam Houston

Cultivated mind is the guardian genius of Democracy, and while guided and controlled by virtue, the noblest attribute of man. It is the only dictator that freemen acknowledge, and the only security which freemen desire.

Mirabeau B. Lamar

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THE GRADUATE SCHOOL ADMINISTRATIVE OFFICERS

Theophilus Shickel Painter, Ph.D., Sc.D., M.N.A.S., LL.D., *Acting President.*¹
Homer Price Rainey, Ph.D., LL.D., *President.*²
James Clay Dolley, Ph.D., *Vice-President.*³
John Alton Burdine, Ph.D., *Vice-President.*⁴
Collier Read Granberry, M.S., in E.E., *Assistant to the President.*⁵
Albert Perley Brogan, Ph.D., *Dean.*
Henry Winston Harper, M.D., LL.D., *Dean Emeritus.*⁶
Robert Adger Law, Ph.D., LL.D., *Secretary of the Graduate Faculty.*⁷
Charles August Timm, Ph.D., *Secretary of the Graduate Faculty.*⁸
Hildegard Schmalenbeck, B.A., *Secretary to the Dean.*⁹
Sunshine Neely, B.A., *Secretary to the Dean.*¹⁰

GRADUATE FACULTY

Regular Members

This list is for the sessions of 1941-1942, 1942-1943, 1943-1944, and 1944-1945, and through the March 1 appointments of the 1945-1946 session. Dates of appointment to the Graduate Faculty which come within this period and leaves of absence, resignations, etc., which occurred after appointment to the Graduate Faculty are given in the footnotes. The sessions of 1941-1942 and 1942-1943 were composed of the first and second semesters; the sessions of 1943-1944, 1944-1945, and 1945-1946 included the Fall Term, the Winter Semester, and the Spring Semester.

Frederick Joseph Adams, *Professor of Educational Psychology.*¹¹
B.A., California, 1921; M.A., 1922; Ed.D., 1927.

†Ruth Alice Allen, *Professor of Economics.*
B.A., Texas, 1921; M.A., 1923; Ph.D., Chicago, 1933.

Charles Flinn Arrowood, *Professor of the History and Philosophy of Education.*
B.A., Davidson College, 1909; D.Litt., 1941; B.D., Union Theological Seminary (Va.), 1915;
B.A., Rice Institute, 1918; M.A., 1921; Ph.D., Chicago, 1924.

Fred Carleton Ayer, *Professor of Educational Administration.*
B.S., Upper Iowa, 1902; M.S., Georgetown, 1905; Ph.D., Chicago, 1915.

Clarence Edwin Ayres, *Professor of Economics.*
B.A., Brown, 1912; M.A., 1914; Ph.D., Chicago, 1917.

¹Appointment to the Graduate Faculty effective September 1, 1943.

²Appointed *Acting President* November 1, 1944.

³Services as *President* terminated November 1, 1944.

⁴Appointment as *Vice-President* effective May 15, 1945.

⁵Resignation as *Vice-President* effective January 31, 1945.

⁶Appointment as *Assistant to the President* effective March 24, 1945.

⁷Died August 28, 1943.

⁸Became *Secretary of the Graduate Faculty* in September, 1942.

⁹Was *Secretary of the Graduate Faculty* in 1941-1942.

¹⁰Appointment effective November 1, 1945.

¹¹Resignation effective September 30, 1945.

¹²Appointment to the Graduate Faculty effective May 24, 1946.

Part VII: Graduate School

- *Edward Christian Henry Bantel, *Professor of Civil Engineering; Assistant Dean Emeritus of the College of Engineering.*¹²
C.E., Rensselaer Polytechnic Institute, 1897.
- *Eugene Campbell Barker, *Professor of American History.*¹³
B.A., Texas, 1899; M.A., 1900; Ph.D., Pennsylvania, 1908; LL.D., Transylvania College, 1939.
- Chase Baromeo, *Professor of Voice.*¹⁴
B.A., Michigan, 1917; M.Mus. (Hon.), 1929; pupil of Campanari, Brady Seppilli, Schneider; member La Scala (Milan), Teatro Colon (Buenos Aires), Teatro Bellini (Sicily), Chicago Civic and Metropolitan Opera Companies.
- Millard Vernon Barton, *Professor of Aeronautical Engineering; Research Engineer, Defense Research Laboratory.*¹⁵
B.S., California Institute of Technology, 1932; M.S. in C.E., Colorado, 1937; Ph.D., Cornell, 1940.
- †Paul Mason Batchelder, *Associate Professor of Pure Mathematics.*
B.A., Dartmouth College, 1908; M.A., Princeton, 1910; Ph.D., Harvard, 1916.
- *William James Battle, *Professor of Classical Languages.*
B.A., North Carolina, 1888; LL.D., 1940; Ph.D., Harvard, 1893; D.C.L., University of the South, 1922; LL.D., Southwestern, 1929.
- †Edwin Ford Beckenbach, *Associate Professor of Pure Mathematics.*¹⁶
B.A., Rice Institute, 1928; M.A., 1929; Ph.D., 1931.
- Myron Louis Begeman, *Professor of Mechanical Engineering; Superintendent of Shops in Mechanical Engineering.*¹⁷
B.A., B.M.E., Michigan, 1915; M.S., 1922.
- †Rudolph Leopold Bieseile, *Professor of History.*
B.A., Texas, 1909; M.A., 1910; Ph.D., 1928.
- †Hugh Carlton Blodgett, *Professor of Psychology.*¹⁸
B.A., California, 1921; Ph.D., 1925.
- Mody Coggins Boatright, *Associate Professor of English.*¹⁹
B.A., West Texas State Teachers College, 1922; M.A., Texas, 1923; Ph.D., 1932.
- †Charles Paul Boner, *Professor of Physics; Director of the Defense Research Laboratory.*²⁰
B.A., Texas, 1920; M.A., 1922; Ph.D., 1929.
- *Johannes Lassen Boysen, *Professor of Germanic Languages.*
B.A., Harvard, 1898; M.A., Syracuse, 1904; Ph.D., Wuerzburg, 1909.
- †David Kingsley Brace, *Professor of Physical and Health Education.*²¹
B.A., Reed College, 1915; M.A., Teachers College, Columbia, 1921; Ph.D., 1927.
- Albert Perley Brogan, *Professor of Philosophy; Dean of the Graduate School.*
B.A., Harvard, 1911; M.A., 1912; Ph.D., 1914.
- Simpson Leroy Brown, *Professor of Physics.*
B.A., Indiana, 1905; M.A., 1907; Ph.D., California, 1909.

*Modified service.

†Appointment to the Graduate Faculty effective September 1, 1943.

¹²Modified service effective September 1, 1944; appointment as *Assistant Dean* changed to *Assistant Dean Emeritus*, effective September 1, 1944.

¹³Absent on leave for the Fall Term of 1944-1945 and the Fall Term of 1945-1946; modified service effective September 1, 1945.

¹⁴Appointment to the Graduate Faculty effective September 29, 1944.

¹⁵Appointment to the Graduate Faculty effective September 28, 1945.

¹⁶Resignation effective June 30, 1945.

¹⁷Appointment to the Graduate Faculty effective September 29, 1944.

¹⁸Appointment changed from *Associate Professor* to *Professor*, effective September 1, 1944.

¹⁹Appointment to the Graduate Faculty effective November 1, 1945.

²⁰Absent on leave from February 1, 1942, to September 1, 1945; appointment as *Director of the Defense Research Laboratory* effective September 1, 1945.

²¹Absent on leave from November 1, 1943, to July 1, 1944.

- †Fred Mason Bullard, *Professor of Geology and Mineralogy.*²²
 B.S., Oklahoma, 1921; M.S., 1922; Ph.D., Michigan, 1928.
- †John Alton Burdine, *Vice-President; Professor of Government.*²³
 B.A., M.A., Texas, 1926; M.A., Harvard, 1933; Ph.D., 1939.
- †Halbert Pleasant Bybee, *Professor of Geology; Geologist in Charge of University Lands.*²⁴
 B.S., Rochester College (Indiana), 1909; B.A., Indiana, 1912; M.A., 1913; Ph.D., 1915.
- *John William Calhoun, *Professor of Applied Mathematics and Astronomy.*
 B.A., Texas, 1905; M.A., Harvard, 1908; LL.D., Abilene Christian College, 1938.
- *Lilia Mary Casís, *Professor of Romance Languages.*
 B.Lit., Texas, 1895; M.A., 1896.
- †Carlos Eduardo Castañeda, *Associate Professor of History; Latin-American Librarian.*²⁵
 B.A., Texas, 1921; M.A., 1923; Ph.D., 1932; LL.D., St. Edward's, 1940; K.H.S., 1942.
- Dana Brackenridge Casteel, *Professor of Zoology.*
 B.A., Allegheny College, 1899; M.A., Ohio Wesleyan, 1900; Ph.D., Pennsylvania, 1903.
- †David Lee Clark, *Professor of English.*²⁶
 B.A., East Texas Normal College, 1907; M.A., North Carolina, 1909; Ph.D., Columbia, 1923.
- †Evert Mordecai Clark, *Professor of English.*
 B.A., Lebanon, 1901; B.A., Yale, 1905; M.A., 1906; Ph.D., 1911.
- Robert T. Clark, Jr., *Professor of Germanic Languages.*²⁷
 B.A., Vanderbilt, 1927; M.A., 1928; Ph.D., Stanford, 1932.
- †Lloyd Loring Click, *Professor of English; Assistant Dean of the College of Arts and Sciences.*
 B.S., Tennessee, 1912; M.A., Michigan, 1917; Ph.D., 1919.
- †Malcolm Young Colby, *Professor of Physics.*
 B.A., Texas, 1915; M.A., 1925; Ph.D., Chicago, 1929.
- Clyde C. Colvert, *Professor of Educational Administration; Professor and Consultant in Junior College Education.*²⁸
 B.S., Arkansas, 1929; M.S.E., 1930; Ph.D., George Peabody College for Teachers, 1937.
- †Albert Everett Cooper, *Professor of Applied Mathematics and Astronomy.*
 E.E., Texas, 1914; B.A., 1923; M.A., 1924; Ph.D., Chicago, 1926.
- Ellis Merton Coulter, *Professor of American History.*²⁹
 B.A., North Carolina, 1913; M.A., Wisconsin, 1915; Ph.D., 1917.
- Alonzo Bettis Cox, *Professor of Cotton Marketing; Director (ad interim) of the Bureau of Business Research.*³⁰
 B.A., Texas, 1911; M.A., 1914; Ph.D., Wisconsin, 1920; LL.D., Abilene Christian College, 1938.
- †Homer Vincent Craig, *Professor of Applied Mathematics and Astronomy.*
 B.A., Colorado, 1924; Ph.D., Wisconsin, 1929.

*Modified service.

²²Appointment to the Graduate Faculty effective September 1, 1943.

²³Absent on leave for the Fall Term of 1944-1945.

²⁴Resignation as Vice-President effective January 31, 1945.

²⁴Absent on leave for the Fall Term of 1945-1946.

²⁵Absent on leave from September 1, 1943, to March 1, 1946.

²⁶Appointment changed from Associate Professor to Professor, effective September 1, 1944.

²⁷Appointment to the Graduate Faculty effective November 1, 1945.

²⁸Appointment to the Graduate Faculty effective November 1, 1944.

²⁹Appointment to the Graduate Faculty effective February 1, 1943; absent on leave for 1945-1946.

³⁰Appointment as Director of the Bureau of Business Research changed to Director (ad interim) for the session of 1944-1945; served as Director for the period September 1, 1945, through September 30, 1945.

- †Raymond Fillmore Dawson, *Associate Professor of Civil Engineering; Associate Director of the Bureau of Engineering Research.*³¹
B.S. in C.E., Purdue, 1923; M.S. in C.E., Texas, 1936.
- Howard Edward Degler, *Professor of Mechanical Engineering.*³²
M.E., Lehigh, 1914; M.S. in M.E., Illinois, 1927.
- †James Frank Dobie, *Professor of English.*³³
B.A., Southwestern (Texas), 1910; M.A., Columbia, 1914.
- Edward Lewis Dodd, *Professor of Actuarial Mathematics.*³⁴
B.A., Western Reserve, 1897; M.A., 1901; M.A., Yale, 1902; Ph.D., 1904.
- James Clay Dolley, *Vice-President; Professor of Banking and Investments.*³⁵
B.A., McKendree College, 1919; M.A., Illinois, 1923; Ph.D., California, 1928.
- †E. William Doty, *Professor of Music; Dean of the College of Fine Arts.*
B.A., Michigan, 1927; M.A., B.Mus., 1929; Ph.D., 1936; advanced study at the Landes Konservatorium, Leipzig, and the Mozarteum, Salzburg; pupil of Christian, Bennet, Straube (Organ), Moore, Thomas, Hochkofler, von Sallinger, Krauss, Paumgarten (Conducting).
- †Venton Levy Doughtie, *Professor of Mechanical Engineering.*
B.S. in M.E., Texas, 1920; M.S. in M.E., 1940.
- †Oscar Berry Douglas, *Professor of Educational Psychology; Consultant in Child Development.*
B.A., Texas Christian, 1920; M.A., Texas, 1924; Ph.D., Chicago, 1928.
- Frederic Duncalf, *Professor of Medieval History.*³⁶
B.A., Beloit College, 1904; Ph.D., Wisconsin, 1909.
- *Frederick Eby, *Professor of the History and Philosophy of Education.*³⁷
B.A., McMaster, 1895; LL.D., 1921; Ph.D., Clark, 1900.
- †Carl John Eckhardt, Jr., *Professor of Mechanical Engineering; Superintendent of Utilities.*
B.S. in M.E., Texas, 1925; M.S. in M.E., 1930.
- George Charles Marius Engerrand, *Professor of Anthropology.*
B.S., France (Bordeaux), 1895; Licentiate in Geology, 1897; Licentiate in Botany, 1898; M.A., Mississippi, 1920; Ph.D., Texas, 1935.
- Hyman Joseph Ettlinger, *Professor of Pure Mathematics; Research Mathematician, Defense Research Laboratory.*³⁸
B.A., Washington (St. Louis), 1910; M.A., Harvard, 1911; Ph.D., 1920.
- †George H. Fancher, *Professor of Petroleum Engineering.*³⁹
B.S., Southern California, 1923; M.S., Maryland, 1926; D.Sc., Colorado School of Mines, 1930.
- William August Felsing, *Professor of Chemistry; Research Chemist, Defense Research Laboratory.*⁴⁰
B.A., Texas, 1913; M.A., 1915; Ph.D., Massachusetts Institute of Technology, 1918.
- †Phil Moss Ferguson, *Professor of Civil Engineering.*
B.S. in C.E., Texas, 1922; C.E., 1923; M.S. in C.E., Wisconsin, 1924.

*Modified service.

†Appointment to the Graduate Faculty effective September 1, 1943.

³¹Appointment changed from *Assistant Director of the Bureau of Engineering Research* to *Associate Director*, effective September 1, 1944.

³²Absent on leave for 1945-1946.

³³Absent on leave for the first semester of 1942-1943 and for the sessions of 1943-1944, 1944-1945, and 1945-1946.

³⁴Died January 9, 1943.

³⁵Absent on leave from September 1, 1944, to May 15, 1945; appointment as *Vice-President* effective May 15, 1945.

³⁶Absent on leave for the Fall Term of 1945-1946.

³⁷Modified service effective September 1, 1945.

³⁸Appointment as *Research Mathematician* effective September 10, 1945.

³⁹Absent on leave for the Fall Term of 1944-1945.

⁴⁰Absent on leave from March 4, 1943, through June 15, 1943, and for the Fall Term of 1943-1944; appointment as *Research Chemist* effective October 1, 1945.

Stanley Phister Finch, Professor of Civil Engineering.

B.A., Texas, 1902; C.E., 1905; M.S., Massachusetts Institute of Technology, 1909.

James Anderson Fitzgerald, Professor of Banking and Insurance; Dean of the College of Business Administration.

B.A., Georgetown College, 1901; M.A., Chicago, 1907; Ph.D., 1925.

John Arnold Focht, Professor of Highway Engineering.⁴¹

C.E., Texas, 1914; M.S. in C.E., 1929.

†John Hutchinson Frederick, Professor of Transportation and Industry.

B.S., Pennsylvania, 1918; M.A., 1925; Ph.D., 1927.

Mary Edna Gearing, Professor Emeritus of Home Economics.⁴²

Diploma in Domestic Science, Columbia, 1909.

†George Vincent Gentry, Professor of Philosophy.

B.A., Arizona, 1926; Ph.D., Chicago, 1931.

Warner Ensign Gettys, Professor of Sociology; Director of the Bureau of Research in the Social Sciences.

B.A., Hiram College, 1913; M.A., Ohio State, 1916; Ph.D., 1924.

William Francis Gidley, Professor of Pharmacy; Dean of the College of Pharmacy.

Ph.C., B.S. in Phar., Michigan, 1908.

***Clyde Chew Glascok, Professor of Romance Languages.⁴³**

Ph.D., Johns Hopkins, 1900.

Glenn Warren Goldsmith, Professor of Botany; Director, Cotton Investigation and Research.⁴⁴

B.A., Minnesota, 1907; Ph.D., Nebraska, 1922.

***Goldwin Goldsmith, Professor of Architecture.**

Ph.B., Columbia, 1896; F.A.I.A., 1930.

†Philip Graham, Professor of English.

B.A., Texas, 1923; M.A., 1924; Ph.D., Chicago, 1927.

Clarence Truman Gray, Professor of Educational Psychology.

B.A., Indiana, 1904; M.A., Chicago, 1911; Ph.D., 1916.

†Allen Beattie Griffen, Associate Professor of Zoology.⁴⁵

B.A., Texas, 1935; Ph.D., 1939.

***Reginald Harvey Griffith, Professor of English.⁴⁶**

M.A., Furman, 1892; Litt.D., 1925; Ph.D., Chicago, 1905.

†John Griswold, Professor of Chemical Engineering; Supervisor, Rubber Reserve Research Project.⁴⁷

B.S. in Ch.E., Illinois, 1928; Sc.D. in Ch.E., Massachusetts Institute of Technology, 1932.

†Donald Jay Grout, Associate Professor of Music History.⁴⁸

B.A., Syracuse, 1923; M.A., Harvard, 1932; Ph.D., 1939.

Milton Rietow Gutsch, Professor of English History.

B.A., Wisconsin, 1908; M.A., 1909; Ph.D., 1916.

Charles Wilson Hackett, Professor of Latin-American History; Chairman, Executive Committee, Institute of Latin-American Studies.

B.A., Texas, 1909; M.A., California, 1914; Ph.D., 1917.

†Edward Everett Hale, Professor of Economics.

B.A., Texas, 1920; M.A., Wisconsin, 1923.

^{*}Modified service.[†]Appointment to the Graduate Faculty effective September 1, 1943.⁴¹Appointment to the Graduate Faculty effective November 1, 1945.⁴²Appointment changed from Professor to Professor Emeritus, effective September 15, 1942.⁴³Modified service effective September 15, 1942; died May 24, 1944.⁴⁴Died October 29, 1943.⁴⁵Resignation effective September 1, 1945.⁴⁶Modified service effective September 1, 1943; absent on leave for the Fall Term of 1945-1946.⁴⁷Appointment as Supervisor of the Rubber Reserve Research Project effective September 1, 1945.⁴⁸Resignation effective June 30, 1945.

- †Edwin Woodworth Hamlin, *Professor of Electrical Engineering; Director of the Electrical Engineering Research Laboratory.*⁴⁹
B.S. in E.E., Union College, 1926; M.S. in E.E., 1928; Ph.D. in E.E., 1932.
- *Henry Winston Harper, *Professor of Chemistry; Dean Emeritus of the Graduate School.*⁵⁰
Ph.G., Philadelphia College of Pharmacy, 1881; M.D., Virginia, 1892; Fellow of the Chemical Society (London), 1899; LL.D., Baylor, 1914.
- †Thomas Perrin Harrison, Jr., *Professor of English.*
B.A., North Carolina, 1918; Ph.D., Cornell, 1924.
- †Bess Heflin, *Professor of Home Economics.*⁵¹
B.A., Texas, 1913; M.A., Columbia, 1916.
- *Joseph Lindsey Henderson, *Professor of Secondary Education.*
B.A., West Virginia, 1894; M.A., Columbia, 1906; Ph.D., 1912.
- Henry Rudolf Henze, *Professor of Pharmaceutical Chemistry.*
Ph.B., Yale, 1918; Ph.D., 1921.
- Lee M. Hollander, *Professor of Germanic Languages.*
B.A., Johns Hopkins, 1901; Ph.D., 1905.
- Theodore Hornberger, *Professor of English.*⁵²
B.A., Michigan, 1927; M.A., 1929; Ph.D., 1934.
- Darrell Stephen Hughes, *Professor of Physics; Consultant in Geophysics.*⁵³
B.A., Kentucky, 1926; M.S., 1928; Ph.D., Chicago, 1931.
- †Watrous Henry Irons, *Professor of Banking and Finance.*⁵⁴
B.A., Pennsylvania State College, 1925; M.A., Pennsylvania, 1933; Ph.D., 1937.
- †Mrs. Annie Sowell Irvine, *Associate Professor of English.*
B.A., Texas, 1908; M.A., 1924; Ph.D., 1929.
- †Lloyd Alexander Jeffress, *Professor of Psychology.*
B.A., California, 1922; Ph.D., 1926.
- †Clyde Roland Johnson, *Associate Professor of Chemistry.*
B.A., Reed College, 1925; M.A., Rice Institute, 1928; Ph.D., 1930.
- †Archie N. Jones, *Professor of Music Education.*
Diploma in Music, Nebraska School of Music, 1924; B.S., Minnesota, 1929; M.A., 1931; Mus.D. (Hon.), MacPhail School of Music, 1940; advanced study with Witherspoon, Middleton, Wheatley.
- David Ballin Klein, *Professor of Psychology.*
B.A., College of the City of New York, 1918; M.A., Columbia, 1921; Ph.D., 1930.
- Kenneth Albert Kobe, *Professor of Chemical Engineering.*⁵⁵
B.S. in Ch.E., Minnesota, 1926; M.S. in Ch.E., 1928; Ph.D., 1930.
- *John Matthias Kuehne, *Professor of Physics.*⁵⁶
B.S., Texas, 1899; M.A., 1901; Ph.D., Chicago, 1910.
- Robert Adger Law, *Professor of English.*⁵⁷
B.A., Wofford College, 1898; M.A., Trinity College (N.C.), 1902; M.A., Harvard, 1903; Ph.D., 1905; LL.D., Austin College, 1940.

*Modified service.

†Appointment to the Graduate Faculty effective September 1, 1943.

⁴⁹Appointment as Director of the Electrical Engineering Research Laboratory effective July 1, 1945.

⁵⁰Died August 28, 1943.

⁵¹Absent on leave for the Fall Term of 1944-1945.

⁵²Absent on leave for the first semester of 1941-1942.

⁵³Appointment to the Graduate Faculty effective November 1, 1945.

⁵⁴Absent on leave from March 4, 1942, through June 15, 1942, and for the sessions of 1942-1943, 1943-1944, and 1945-1946, and for the Fall Term of 1944-1945.

⁵⁵Absent on leave from September 15, 1942, to March 4, 1944; military service.

⁵⁶Modified service effective September 15, 1942.

⁵⁷Absent on leave for the second semester of 1941-1942 and the Fall Term of 1945-1946.

- Chester Frederic Lay, *Professor of Accounting and Management.*⁵⁸
 Ed.B., Teachers College, Illinois State Normal, 1917; M.A., Chicago, 1923; Ph.D., 1931;
 C.P.A., Texas, 1929.
- †Harry Joshua Leon, *Professor of Classical Languages.*
 B.A., Harvard, 1918; M.A., 1919; Ph.D., 1927.
- Isaac McKinney Lewis, *Professor of Botany and Bacteriology.*⁵⁹
 B.A., Indiana, 1906; M.A., 1907; Ph.D., 1909.
- Harry Louis Lochte, *Professor of Chemistry.*
 B.A., Texas, 1918; Ph.D., Illinois, 1922.
- John T. Lonsdale, *Professor of Geology; Director of the Bureau of Economic Geology.*⁶⁰
 B.A., Iowa, 1917; M.S., 1921; Ph.D., Virginia, 1924.
- Elmer Julius Lund, *Professor of Physiology; Director of the Institute of Marine Science.*
 Ph.B., Hamline, 1910; D.Sc., 1935; Ph.D., Johns Hopkins, 1914.
- *Frederick McAllister, *Professor of Botany.*⁶¹
 B.A., Albion College, 1903; M.A., Beloit College, 1908; Ph.D., Wisconsin, 1910.
- †J. Gilbert McAllister, *Professor of Anthropology; Director of Research in Anthropology.*⁶²
 B.A., Texas, 1928; M.A., Chicago, 1933; Ph.D., 1935.
- Edward Karl McGinnis, *Professor of Business Law and Real Estate.*
 B.A., Missouri Valley College, 1907; J.D., Chicago, 1923.
- †Stuart Alexander MacCorkle, *Professor of Government; Director of the Bureau of Municipal Research.*
 B.A., Washington and Lee, 1925; M.A., Virginia, 1928; Ph.D., Johns Hopkins, 1931.
- Herschel Thurman Manuel, *Professor of Educational Psychology; Director of the Testing and Guidance Program.*⁶³
 B.A., DePauw, 1909; M.A., Chicago, 1914; Ph.D., Illinois, 1917.
- †James Oscar Marberry, *Professor of Educational Administration; Director of the Extension Teaching Bureau.*⁶⁴
 B.A., Ewing College, 1908; M.A., Wisconsin, 1916; Ph.D., 1926.
- †Mrs. Cora Merriman Martin, *Professor of Elementary Education.*
 B.S., Columbia, 1919; M.A., 1922; Ph.D., Texas, 1936.
- John Lloyd Mecham, *Professor of Government.*⁶⁵
 B.A., California, 1916; M.A., 1917; Ph.D., 1923.
- †David Louis Miller, *Professor of Philosophy.*⁶⁶
 B.A., College of Emporia, 1927; Ph.D., Chicago, 1932.
- Edmund Thornton Miller, *Professor of Economics.*
 B.A., Weatherford College, 1897; B.A., Texas, 1900; M.A., 1901; M.A., Harvard, 1903;
 Ph.D., 1909.
- Edwin Thomas Mitchell, *Professor of Philosophy.*
 B.A., Alberta, 1912; M.A., 1913; Ph.D., Chicago, 1923.
- †Clifford Marvin Montgomery, *Professor of Romance Languages.*
 B.A., Southwestern (Texas), 1914; M.A., California, 1919; Ph.D., Pennsylvania, 1929.

*Modified service.

†Appointment to the Graduate Faculty effective September 1, 1943.

⁵⁸Resignation effective December 31, 1944.

⁵⁹Died March 12, 1943.

⁶⁰Appointment to the Graduate Faculty effective September 1, 1945.

⁶¹Modified service effective September 1, 1945.

⁶²Appointment changed from *Associate Professor* to *Professor*, effective September 1, 1944.

⁶³Appointment as *Director of the Testing and Guidance Program* effective September 1, 1942.

⁶⁴Died November 25, 1944.

⁶⁵Absent on leave for the Winter and Spring Semesters of 1943-1944 and for the Fall Term of 1944-1945.

⁶⁶Appointment changed from *Associate Professor* to *Professor*, effective September 1, 1945.

Robert Hargrove Montgomery, Professor of Economics.⁶⁷
 B.A., Kansas, 1920; M.A., Texas, 1924; Ph.D., Robert Brookings Graduate School, 1926.

Harry Estill Moore, Associate Professor of Sociology.⁶⁸
 B.J., Texas, 1927; M.A., 1932; Ph.D., North Carolina, 1937.

Robert Lee Moore, Professor of Pure Mathematics.
 B.S., M.A., Texas, 1901; Ph.D., Chicago, 1905; M.N.A.S., 1931.

George Hillis Newlove, Professor of Accounting.
 P.B., Hamline, 1914; M.A., Minnesota, 1915; LL.B., Illinois, 1918; C.P.A., North Carolina, 1918; C.P.A., Illinois, 1919.

Henry J. Otto, Professor of Elementary Education; Professor of Educational Administration.⁶⁹
 B.A., Carleton College, 1923; M.A., Minnesota, 1927; Ph.D., 1931.

Theophilus Shickel Painter, Acting President; Professor of Zoology.⁷⁰
 B.A., Roanoke College, 1938; LL.D., 1942; M.A., Yale, 1909; Ph.D., 1913; Sc.D., 1936; M.N.A.S., 1938.

†Clara May Parker, Professor of Curriculum and Instruction.⁷¹
 B.A., Texas, 1913; M.A., 1920; Ph.D., 1930.

Hanson Tufts Parlin, Professor of English; Dean of the College of Arts and Sciences.
 B.A., Colorado, 1904; M.A., 1906; Ph.D., Pennsylvania, 1908.

Caleb Perry Patterson, Professor of Government.
 B.A., M.A., Vanderbilt, 1911; M.A., Harvard, 1916; LL.B., Memphis, 1917; LL.B., Texas, 1921; Ph.D., Columbia, 1923.

John Thomas Patterson, Professor of Zoology; Director of Research in Zoology and in Genetics.
 B.S., College of Wooster, 1903; Sc.D., 1938; P.D., Chicago, 1908; M.N.A.S., 1941.

***Leonidas Warren Payne, Jr., Professor of English.⁷²**
 B.S., Alabama Polytechnic Institute, 1892; M.S., 1895; Ph.D., Pennsylvania, 1904.

***Daniel Allen Penick, Professor of Classical Languages; Tennis Coach.**
 B.A., Texas, 1891; M.A., 1892; Ph.D., Johns Hopkins, 1898.

Fleming Allen Clay Perrin, Professor of Psychology.⁷³
 Ph.B., Chicago, 1910; Ph.D., 1914.

Benjamin Floyd Pittenger, Professor of Educational Administration; Dean of the College of Education.
 B.Ped., Michigan State Normal College, 1907; B.A., 1908; M.A., Texas, 1912; Ph.D., Chicago, 1916.

***Milton Brockett Porter, Professor of Pure Mathematics.⁷⁴**
 B.S., Texas, 1892; Ph.D., Harvard, 1897.

†Harry Harrison Power, Professor of Petroleum Engineering.⁷⁵
 B.S. in Ch.E., Washington State College, 1919; Ch.E., 1936; M.S. in Mining, California, 1928.

Homer Price Rainey, President; Professor of Educational Administration.⁷⁶
 B.A., Austin College, 1919; M.A., Chicago, 1923; Ph.D., 1924; LL.D., New Mexico, 1943.

Charles William Ramsdell, Professor of American History.⁷⁷
 B.A., Texas, 1903; M.A., 1904; Ph.D., Columbia, 1910.

⁶⁷Modified service.

⁶⁸Appointment to the Graduate Faculty effective September 1, 1943.

⁶⁹Appointment to the Graduate Faculty effective November 1, 1945.

⁷⁰Appointment to the Graduate Faculty effective November 1, 1945.

⁷¹Appointment as *Acting President* effective February 1, 1942.

⁷²Appointment as *Instructor in English* for the Fall Term of 1944-1945.

⁷³Modified service effective September 1, 1943; died June 16, 1945.

⁷⁴Died December 1, 1944.

⁷⁵Resigned July 14, 1945.

⁷⁶Absent on leave for the Fall Term of 1945-1946.

⁷⁷Services as President terminated November 1, 1944.

⁷⁷Died July 3, 1942.

Emmette Shelburn Redford, *Professor of Government.*⁷⁸

B.A., Texas, 1927; M.A., 1928; Ph.D., Harvard, 1933.

†Oscar William Reinmuth, *Professor of Classical Languages.*⁷⁹

B.A., Clinton, 1921; M.A., Nebraska, 1928; Ph.D., Princeton, 1931.

Thad Weed Riker, *Professor of Modern European History.*

B.A., Princeton, 1903; M.A., 1904; B.Litt., Oxford, 1908; D.Litt., 1935.

†Walter Thomas Rolfe, *Professor of Architecture; Veterans Coördinator, University Veterans Advisory Service.*⁸⁰

B.S. in Arch., Kansas State College, 1922; Architect, 1936; M.Arch., Massachusetts Institute of Technology, 1923.

Arnold Romberg, *Professor of Physics.*⁸¹

B.A., Texas, 1910; M.A., Harvard, 1913; Ph.D., 1915.

Hilda Florence Rosene, *Associate Professor of Physiology.*⁸²

B.S., Washington, 1922; M.S., 1924; Ph.D., Texas, 1933.

Carl Martin Rosenquist, *Professor of Sociology.*⁸³

B.S., Illinois, 1921; M.A., Texas, 1925; Ph.D., Chicago, 1930.

†George Isidore Sánchez, *Professor of Latin-American Education.*⁸⁴

B.A., New Mexico, 1930; M.Ed., Texas, 1931; Ed.D., California, 1934.

Aaron Schaffer, *Professor of Romance Languages.*⁸⁵

B.A., Johns Hopkins, 1914; Ph.D., 1917.

*Eugene Paul Schoch, *Professor of Chemical Engineering; Acting Director of the Bureau of Industrial Chemistry and Technical Advisor, Acetylene Project.*⁸⁶

C.E., Texas, 1894; M.A., 1896; Ph.D., Chicago, 1902.

†Vernon Truett Schuhardt, *Professor of Bacteriology; Director, Brucellosis Research.*

B.A., Texas, 1925; M.A., Rice Institute, 1930; Ph.D., 1940.

*Elias Howard Sellards, *Professor of Geology; Director Emeritus and Geologist, Bureau of Economic Geology; Director of the Texas Memorial Museum.*⁸⁷

B.A., Kansas, 1899; M.A., 1900; Ph.D., Yale, 1903.

†Byron Elliott Short, *Professor of Mechanical Engineering; Research Engineer, Defense Research Laboratory.*⁸⁸

B.S. in M.E., Texas, 1926; M.S. in M.E., 1930; M.M.E., Cornell, 1936; Ph.D., 1939.

†Elmer Richard Sims, *Professor of Romance Languages.*

B.A., Austin College, 1903; M.A., Texas, 1918; Ph.D., Chicago, 1926.

*Modified service.

†Appointment to the Graduate Faculty effective September 1, 1943.

⁷⁸Appointment to the Graduate Faculty effective November 1, 1945.

⁷⁹Absent on leave from September 23, 1943, to March 1, 1946; military service.

⁸⁰Appointment as *Veterans Coördinator* effective September 1, 1944; resignation as *Veterans Coördinator* effective October 31, 1945.

⁸¹Absent on leave for 1941–1942; resignation effective June 15, 1942.

⁸²Appointment to the Graduate Faculty effective November 1, 1945.

⁸³Absent on leave for 1941–1942 and 1942–1943.

⁸⁴Absent on leave for 1943–1944 and for the Fall Term and Winter Semester of 1944–1945.

⁸⁵Absent on leave for the second semester of 1941–1942.

⁸⁶Appointment also as *Director of the Bureau of Industrial Chemistry* in 1941–1942. Modified service effective September 15, 1942; appointment as *Technical Advisor to the Board of Regents on Development of Schoch Processes, Bureau of Industrial Chemistry*, for 1943–1944 and 1944–1945. Appointment as *Acting Director of the Bureau of Industrial Chemistry and Technical Advisor, Acetylene Project*, for 1945–1946.

⁸⁷Modified service effective September 1, 1945; Appointment as *Director of the Bureau of Economic Geology* changed to *Director Emeritus and Geologist, Bureau of Economic Geology*, effective September 1, 1945.

⁸⁸Appointment as *Research Engineer* effective September 1, 1945.

- †Charles Aubrey Smith, *Professor of Accounting, Acting Director of the Bureau of Business Research.*⁸⁹
 B.B.A., Texas, 1921; M.B.A., 1926; Ph.D., Columbia, 1933; C.M.A., Oklahoma, 1924; C.P.A., 1925; C.P.A., Texas, 1926.
- †Everett Grant Smith, *Professor of Marketing.*
 B.S., Michigan State College, 1916; M.B.A., Harvard, 1924.
- †Henry Nash Smith, *Professor of English; Professor of American History.*⁹⁰
 B.A., Southern Methodist, 1925; M.A., Harvard, 1929; Ph.D., 1940.
- Esmond Emerson Snell, *Associate Professor of Chemistry; Research Biochemist, Biochemical Institute.*⁹¹
 B.A., Brigham Young, 1935; M.A., Wisconsin, 1936; Ph.D., 1938.
- Luther Crocker Snider, *Professor of Geology.*⁹²
 B.A., Indiana, 1908; M.A., 1909; Ph.D., Chicago, 1915.
- †Jefferson Rea Spell, *Professor of Romance Languages.*⁹³
 B.A., Texas, 1913; M.A., 1920; Ph.D., Pennsylvania, 1931.
- Gene Spencer, *Professor of Home Economics.*⁹⁴
 B.A., M.A., Ohio State, 1917; Ph.D., Cornell, 1929.
- †DeWitt Talmage Starnes, *Professor of English.*⁹⁵
 B.A., Chattanooga, 1911; M.A., Chicago, 1916; Ph.D., 1920.
- George Ward Stocking, *Professor of Economics.*⁹⁶
 B.A., Texas, 1918; M.A., Columbia, 1921; Ph.D., 1925.
- Wilson Stuart Stone, *Professor of Zoology.*⁹⁷
 B.A., Texas, 1930; M.A., 1931; Ph.D., 1935.
- †Robert Lee Sutherland, *Professor of Sociology; Director of the Hogg Foundation for Mental Hygiene, and Lecturer and Consultant in the Program.*
 B.A., Knox College, 1925; M.A., Oberlin College, 1927; Ph.D., Chicago, 1930.
- Benjamin Carroll Tharp, *Professor of Botany; Director of the Herbarium.*⁹⁸
 B.A., Texas, 1914; M.A., 1915; Ph.D., 1925.
- Milton John Thompson, *Professor of Aeronautical Engineering; Associate Director of the Defense Research Laboratory.*⁹⁹
 B.S.E., Michigan, 1925; M.S.E. (Ae. E.), 1926; D.Sc., Warsaw Polytechnical School (Poland), 1930.
- Paul Jennings Thompson, *Professor of Journalism.*
 B.J., Missouri, 1914; M.B.A., Texas, 1927.

⁸⁹Appointment to the Graduate Faculty effective September 1, 1943.

⁹⁰Appointment as *Acting Director of the Bureau of Business Research* for the period October 1, 1945, through January 31, 1946.

⁹¹Absent on leave for 1945-1946.

⁹²Appointment to the Graduate Faculty effective September 29, 1944; resignation effective September 1, 1945.

⁹³Absent on leave for the Fall Term of 1943-1944 and the Fall Term of 1944-1945.

⁹⁴Appointment changed from *Associate Professor* to *Professor*, effective September 1, 1944.

⁹⁵Appointment to the Graduate Faculty effective January 1, 1942; absent on leave for the Fall Term of 1945-1946.

⁹⁶Absent on leave for the Fall Term of 1944-1945.

⁹⁷Absent on leave for 1941-1942, for the Fall Term and Spring Semester of 1944-1945, and for the Fall Term of 1945-1946.

⁹⁸Appointment to the Graduate Faculty effective March 1, 1946.

⁹⁹Appointment as *Director of the Herbarium* effective September 15, 1942.

⁹⁹Appointment as *Professor of Aeronautics, Department of Mechanical Engineering*, for 1941-1942; appointment changed to *Professor of Aeronautical Engineering*, effective September 15, 1942. Absent on leave from February 15, 1945, through June 30, 1945, and for the Fall Term of 1945-1946. Appointment as *Associate Director of the Defense Research Laboratory* effective November 1, 1945.

- Charles August Timm, *Professor of Government.*¹⁰⁰
 B.A., M.A., Texas, 1924; Ph.D., Harvard, 1934.
- James Greenleaf Umstattt, *Professor of Secondary Education.*¹⁰¹
 B.S. in Ed., Missouri, 1918; M.A., 1924; Ph.D., Minnesota, 1930.
- Harry Shultz Vandiver, *Professor of Pure Mathematics.*¹⁰²
 M.N.A.S., 1934.
- *Ernest Joseph Villavaso, *Professor of Romance Languages.*¹⁰³
 B.A., Tulane, 1894; M.A., 1896.
- †Robert Wilberforce Warner, *Professor of Electrical Engineering.*
 B.A., Washburn College, 1911; D.Sc., 1941; B.S. in E.E., Kansas, 1918; E.E., 1928.
- †George Willard Watt, *Professor of Chemistry.*¹⁰⁴
 B.A., Ohio State, 1931; M.Sc., 1933; Ph.D., 1935.
- Walter Prescott Webb, *Professor of American History; Director of Research in Texas History.*¹⁰⁵
 B.A., Texas, 1915; M.A., 1920; Ph.D., 1932; M.A., Oxford, 1942.
- Oliver Douglas Weeks, *Professor of Government.*¹⁰⁶
 B.A., Ohio Wesleyan, 1918; M.A., Wisconsin, 1919; Ph.D., 1924.
- *James Blanton Wharey, *Professor of English.*¹⁰⁷
 B.A., Davidson College, 1892; M.A., 1895; LL.D., 1934; Ph.D., Johns Hopkins, 1904.
- †John Arch White, *Professor of Accounting.*¹⁰⁸
 B.B.A., Texas, 1929; M.B.A., 1930; Ph.D., 1937.
- †Francis Luther Whitney, *Professor of Geology and Paleontology.*
 B.A., Cornell, 1906; M.A., 1911; Ph.D., 1928.
- †Clarence Alton Wiley, *Professor of Economics.*
 B.A., Texas, 1920; M.A., 1921; Ph.D., Wisconsin, 1926.
- Rudolph Willard, *Professor of English.*
 B.A., Yale, 1919; Ph.D., 1925.
- Oscar Brown Williams, *Professor of Bacteriology.*
 B.A., Texas, 1921; M.A., 1923; Ph.D., California, 1928.
- Robert Haden Williams, *Professor of Romance Languages.*
 B.A., Southwestern, 1915; M.A., Columbia, 1922; Ph.D., 1946.
- Robert R. Williams, *Professor of Chemistry.*¹⁰⁹
 B.S., Chicago, 1907; M.S., 1908; D.Sc., 1941; D.Sc., Ottawa, 1935; D.Sc., Ohio Wesleyan, 1938.
- Roger John Williams, *Professor of Chemistry; Director of the Biochemical Institute.*¹¹⁰
 B.S., Redlands, 1914; D.Sc., 1934; M.S., Chicago, 1918; Ph.D., 1919; D.Sc., Columbia, 1942.
- †Jennie S. Wilmot, *Associate Professor of Home Economics.*¹¹¹
 B.S., Teachers College, Columbia, 1924; M.A., 1925.

*Modified service.

†Appointment to the Graduate Faculty effective September 1, 1943.

¹⁰⁰Absent on leave for the first semester of 1941-1942 and for the sessions of 1942-1943, 1943-1944, 1944-1945, and 1945-1946.

¹⁰¹Absent on leave for 1945-1946.

¹⁰²Absent on leave for 1945-1946.

¹⁰³Modified service effective September 1, 1944.

¹⁰⁴Absent on leave from November 1, 1943, to September 1, 1945; appointment changed from *Associate Professor to Professor*, effective March 1, 1946.

¹⁰⁵Appointment as *Director of Research in Texas History* effective September 15, 1942; absent on leave for 1942-1943.

¹⁰⁶Absent on leave for the Fall Term and Winter Semester of 1945-1946.

¹⁰⁷Modified service effective September 15, 1942.

¹⁰⁸Absent on leave from February 1, 1943, to November 1, 1944; appointment changed from *Associate Professor to Professor*, effective September 1, 1945.

¹⁰⁹Appointment to the Graduate Faculty effective December 1, 1945.

¹¹⁰Appointment also as *Director of Research in Chemistry* for 1941-1942 and 1942-1943; absent on leave for the Fall Term of 1945-1946.

¹¹¹Absent on leave for the Fall Term of 1944-1945 and the Fall Term of 1945-1946.

*Ambrose Paré Winston, *Professor of International Trade.*¹¹²
B.A., Wisconsin, 1887; Ph.D., Cornell, 1900.

Jet Corine Winters, *Professor of Home Economics.*¹¹³
B.A., Texas, 1911; B.S., Teachers College, Columbia, 1915; M.A., 1918; Ph.D., Yale, 1926.

Willis Raymond Woolrich, *Professor of Mechanical Engineering; Dean of the College of Engineering; Director of the Bureau of Engineering Research.*
B.S. in E.E., Wisconsin, 1911; M.E., 1923.

Dana Young, *Professor of Civil Engineering; Research Engineer, Defense Research Laboratory.*¹¹⁴
B.S., Yale, 1926; M.S. in C.E., 1930; Ph.D., Michigan, 1940.

Erich Walter Zimmermann, *Professor of Resources, College of Business Administration.*¹¹⁵
Ph.D., Bonn, 1911.

Associate Members

Associate members of the Graduate Faculty were first appointed for the session of 1943-1944. This list gives those who were appointed at that time and any subsequent appointments, including those appointed for 1945-1946 and 1946-1947. Dates of appointment as associate members are given in the footnotes. If no date is given, the member's appointment was effective September 1, 1943, and has been continued.

Leaves of absence, resignations, changes of title, etc., which occurred between September 1, 1943, and March 1, 1946, are also recorded in the footnotes.

John Leo Abernethy, *Assistant Professor of Chemistry.*¹¹⁶
B.A., California, 1936; M.S., Northwestern, 1938; Ph.D., 1940.

Robbin Colyer Anderson, *Associate Professor of Chemistry; Research Chemist, Defense Research Laboratory.*¹¹⁷
B.S. in Ch.E., Louisiana State, 1934; M.S. in Ch.E., 1936; Ph.D., Wisconsin, 1939.

Mrs. Esther Richards Applin, *Assistant Professor of Geology.*¹¹⁸
B.A., California, 1919; M.A., 1920.

Elmer Bagby Atwood, *Assistant Professor of English.*¹¹⁹
B.A., Simmons College, 1926; M.A., Virginia, 1930; Ph.D., 1932.

Washington Irving Ball, *Assistant Professor of Educational Administration, College of Education and Extension Teaching Bureau.*¹²⁰
B.S., Chicago, 1918; M.A., 1922; Ph.D., Texas, 1935.

Fred A. Barkley, *Assistant Professor of Botany; Curator of the Herbarium.*¹²¹
B.A., Oklahoma, 1930; M.S., 1932; Ph.D., Washington, 1937.

*Modified service.

¹¹²Absent on leave for the Fall Term of 1943-1944 and the Fall Term of 1945-1946.

¹¹³Absent on leave for the Fall Term of 1943-1944 and the Fall Term of 1944-1945.

¹¹⁴Appointment to the Graduate Faculty effective February 1, 1942; appointment as *Research Engineer* effective September 1, 1945.

¹¹⁵Appointment to the Graduate Faculty effective September 15, 1942.

¹¹⁶Appointment for 1943-1944 and 1944-1945.

¹¹⁷Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945; appointment as *Research Chemist* for the Fall Term of 1945-1946.

¹¹⁸Absent on leave for the Fall Term of 1944-1945; resignation effective February 28, 1945.

¹¹⁹Absent on leave from September 1, 1944, to January 1, 1946.

¹²⁰Appointment for 1945-1946.

¹²¹Appointment effective September 1, 1944; absent on leave from February 1, 1945, through June 30, 1945, and for the Fall Term of 1945-1946. Appointment changed from *Instructor in Botany; Assistant in the Herbarium* to *Assistant Professor of Botany; Curator of the Herbarium*, effective September 1, 1945.

- Luis Hamilton Bartlett, *Associate Professor of Mechanical Engineering; Mechanical Research Engineer, Bureau of Engineering Research.*¹²²
 B.S. in Ch.E., Tennessee, 1934; M.S., 1935; Ph.D., Texas, 1943.
- Millard Vernon Barton, *Professor of Aeronautical Engineering.*¹²³
 B.S., California Institute of Technology, 1932; M.S. in C.E., Colorado, 1937; Ph.D., Cornell, 1940.
- Mody Coggins Boatright, *Associate Professor of English.*¹²⁴
 B.A., West Texas State Teachers College, 1922; M.A., Texas, 1923; Ph.D., 1932.
- Osmond Philip Breland, *Assistant Professor of Zoology.*¹²⁵
 B.S., Mississippi State College, 1931; Ph.D., Indiana, 1936.
- Truesdell Sparhawk Brown, *Assistant Professor of History.*¹²⁶
 B.A., Harvard, 1928; M.A., 1929.
- Howard Andrew Calkins, *Assistant Professor of Government.*
 B.A., Ohio Wesleyan, 1927; M.A., Wisconsin, 1928.
- Aileen Carpenter, *Associate Professor of Physical and Health Education.*¹²⁷
 B.S., Iowa State, 1928; M.A., 1929; Ph.D., 1939.
- Horace Bailey Carroll, *Associate Professor of History; Assistant Director of Research in Texas History.*¹²⁸
 B.A., Texas Technological College, 1928; M.A., 1928; Ph.D., Texas, 1935.
- Nathaniel Coburn, *Assistant Professor of Applied Mathematics and Astronomy.*¹²⁹
 B.S., Massachusetts Institute of Technology, 1931; Ph.D., 1934.
- Ellsworth P. Conkle, *Associate Professor of Drama.*¹³⁰
 B.A., Nebraska, 1921; M.A., 1923; Ph.D., Iowa, 1936.
- Mrs. Alice Lovelace Cooke, *Assistant Professor of English.*
 B.A., Texas, 1920; M.A., 1923; Ph.D., 1933.
- Martin Michael Crow, *Associate Professor of English.*¹³¹
 B.A., Washington and Jefferson College, 1924; M.A., Harvard, 1925; Ph.D., Chicago, 1934.
- William Aaron Cunningham, *Professor of Chemical Engineering.*
 B.S. in Ch.E., Texas, 1927; M.S. in Ch.E., 1929; Ph.D., 1941.
- Lancaster Eugene Dabney, *Assistant Professor of Romance Languages.*
 B.A., Texas, 1922; M.A., 1924; Ph.D., Johns Hopkins, 1929.
- Henry Gordon Damon, *Associate Professor of Geology.*¹³²
 B.S., Vanderbilt, 1906; M.A., Texas, 1924; Ph.D., Iowa, 1940.
- Lonnie Bryan Ezell, *Assistant Professor of Educational Administration.*¹³³
 B.A., M.A., Elon, 1921; M.A., Texas, 1930; Ed.D., Texas, 1937.
- George Lowell Field, *Assistant Professor of Government.*¹³⁴
 B.A., Wesleyan, 1932; M.A., Columbia, 1933; Ph.D., 1938.
- Edward Garland Fletcher, *Associate Professor of English.*¹³⁵
 B.A., Bowdoin, 1925; M.A., Harvard, 1926; Ph.D., 1931.

¹²²Appointment effective September 1, 1944.

¹²³Appointed to regular membership in the Graduate Faculty effective September 28, 1945.

¹²⁴Appointed to regular membership in the Graduate Faculty effective November 1, 1945.

¹²⁵Absent on leave, effective April 20, 1943; military service.

¹²⁶Appointment for 1945-1946.

¹²⁷Died September 8, 1944.

¹²⁸Appointment for 1945-1946.

¹²⁹Absent on leave from November 7, 1944, through June 30, 1945.

¹³⁰Appointment for 1946-1947.

¹³¹Appointment effective September 1, 1944; appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

¹³²Appointment effective September 1, 1945.

¹³³Appointment effective September 1, 1945.

¹³⁴Appointment effective September 1, 1945.

¹³⁵Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

- John Arnold Focht, *Professor of Highway Engineering.*¹³⁶
 C.E., Texas, 1914; M.S. in C.E., 1929.
- Jackson Walter Foster, *Associate Professor of Bacteriology.*¹³⁷
 B.S., Massachusetts State College, 1936; Ph.D., Rutgers, 1939.
- Dalies Ehrhardt Frantz, *Professor of Piano.*¹³⁸
 B.Mus., Michigan, 1930.
- Clifford Symes Garner, *Assistant Professor of Chemistry.*¹³⁹
 B.S., California Institute of Technology, 1935; Ph.D., 1938.
- Erma May Gill, *Assistant Professor of English.*¹⁴⁰
 B.A., Texas, 1916; M.A., 1920; Ph.D., 1929.
- Nathan Ginsburg, *Assistant Professor of Physics.*¹⁴¹
 B.A., Ohio State, 1931; M.A., 1932; Ph.D., Michigan, 1935.
- Rosalie S. Godfrey, *Associate Professor of Home Economics; Business Director of University Residence Halls.*
 B.S. in H.E., Kansas State Agricultural College, 1918; M.A., Washington (Seattle), 1926.
- Collier Read Granberry, *Professor of Electrical Engineering; Assistant to the President.*¹⁴²
 B.S. in E.E., M.S. in E.E., Texas, 1924.
- Quintin Branson Graves, *Associate Professor of Civil Engineering.*¹⁴³
 B.S. in C.E., Kansas, 1931; M.S., Iowa, 1932.
- Norman Hackerman, *Assistant Professor of Chemistry.*¹⁴⁴
 B.A., Johns Hopkins, 1932; Ph.D., 1935.
- Ray Nelson Haskell, *Associate Professor of Applied Mathematics and Astronomy.*¹⁴⁵
 B.S., Chicago, 1922; Ph.D., Rice Institute, 1930.
- Lewis Frederic Hatch, *Associate Professor of Chemistry; Research Chemist, Defense Research Laboratory.*¹⁴⁶
 B.S., Washington State College, 1933; M.S., Purdue, 1934; Ph.D., 1937.
- Randolph Arnold Haynes, *Assistant Professor of Romance Languages.*¹⁴⁷
 B.A., Texas, 1918; M.A., 1919; Ph.D., Chicago, 1931.
- William Conyers Herring, *Professor of Applied Mathematics and Astronomy.*¹⁴⁸
 B.A., Kansas, 1933; Ph.D., Princeton, 1937.
- Benjamin Franklin Holland, *Associate Professor of Educational Psychology.*¹⁴⁹
 B.A., Abilene Christian College, 1922; M.A., Texas, 1925; Ph.D., 1931.
- Rex Devern Hopper, *Assistant Professor of Sociology.*¹⁵⁰
 B.A., Butler, 1922; M.A., College of Missions, 1924; Ph.D., Texas, 1943.

¹³⁶Appointed to regular membership in the Graduate Faculty effective November 1, 1945.

¹³⁷Appointment effective March 1, 1946.

¹³⁸Appointment effective September 1, 1944.

¹³⁹Absent on leave; resignation effective December 31, 1945.

¹⁴⁰Appointment effective September 1, 1944; absent on leave for the Fall Term of 1945-1946.

¹⁴¹Appointment changed from *Instructor* to *Assistant Professor*, effective March 1, 1945.

¹⁴²Appointment as *Assistant to the President* effective March 24, 1945.

¹⁴³Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945; absent on leave for the Fall Term and Winter Semester of 1945-1946.

¹⁴⁴Appointment effective September 1, 1945.

¹⁴⁵Appointment effective September 1, 1944.

¹⁴⁶Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945; appointment as *Research Chemist* effective September 1, 1945.

¹⁴⁷Absent on leave for 1945-1946.

¹⁴⁸Appointment for the Spring Semester of 1945-1946 and the Summer Term of 1946.

¹⁴⁹Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

¹⁵⁰Appointment effective September 1, 1945.

- Robert Edward Hungate, *Associate Professor of Zoology; Research Biologist, Biochemical Institute.*¹⁵¹
B.A., Stanford, 1929; Ph.D., 1935.
- Floyd Burton Jones, *Associate Professor of Pure Mathematics.*¹⁵²
B.A., Texas, 1932; Ph.D., 1935.
- Joseph Jay Jones, *Assistant Professor of English.*
B.S., Nebraska, 1930; M.A., Stanford, 1931; Ph.D., 1934.
- George Louis Joughin, *Assistant Professor of English.*¹⁵³
B.A., Harvard, 1927; M.A., 1930; Ph.D., 1932.
- Harry Llewellyn Kent, Jr., *Associate Professor of Mechanical Engineering.*¹⁵⁴
B.S. in M.E., New Mexico State College of Agriculture and Mechanic Arts, 1929; M.S. in M.E., Kansas State College of Agriculture and Applied Science, 1930.
- Richard King, *Special Instructor in Civil Engineering.*¹⁵⁵
B.S. in C.E., Agricultural and Mechanical College of Texas, 1938; M.S. in C.E., Illinois Institute of Technology, 1940.
- Barnes Fletcher Lathrop, *Assistant Professor of History.*¹⁵⁶
B.A., Rice Institute, 1930; M.A., Chicago, 1931.
- Hugo Leipziger-Pearce, *Instructor in Architecture; Coördinator of Engineering Extension and Community Planning, Division of Extension.*¹⁵⁷
Diploma in Architecture, State Academy, Breslau, 1924.
- Renke Gustav Lubben, *Associate Professor of Pure Mathematics.*¹⁵⁸
B.A., Texas, 1921; Ph.D., 1925.
- Daniel Morley McKeithan, *Assistant Professor of English.*
B.A., College of Charleston, 1924; M.A., 1925; Ph.D., Texas, 1935.
- Ramón Martínez-López, *Associate Professor of Romance Languages.*¹⁵⁹
Licentiate in Laws, Santiago de Compostela, 1930; Doctor of Philosophy and Literature, Madrid, 1935.
- Frederick Albert Matsen, *Assistant Professor of Chemistry.*
B.S., Wisconsin, 1937; Ph.D. Princeton, 1940.
- Harry Estill Moore, *Associate Professor of Sociology.*¹⁶⁰
B.J., Texas, 1927; M.A., 1932; Ph.D., North Carolina, 1937.
- Marie Betzner Morrow, *Associate Professor of Botany.*¹⁶¹
B.A., Texas, 1926; M.A., 1927; Ph.D., 1932.
- Jack Edgar Myers, *Assistant Professor of Physiology.*
B.S., Juniata College, 1934; M.S., Montana State College, 1935; Ph.D., Minnesota, 1939.
- Ira Irl Nelson, *Professor of Curriculum and Instruction; Principal of the University High School.*¹⁶²
B.A., Texas, 1910; M.A., 1925; Ph.D., 1932.
- William Meese Newton, *Associate Professor of Chemical Engineering.*¹⁶³
B.S. in Ch.E., Iowa, 1931; M.S., 1933; Ph.D., 1934.

¹⁵¹Appointment also as *Research Biologist* for 1943-1944 and 1944-1945; resignation effective September 1, 1945.

¹⁵²Appointment effective September 1, 1944; absent on leave for the Fall Term of 1944-1945.

¹⁵³Appointment effective September 1, 1944.

¹⁵⁴Appointment for 1945-1946.

¹⁵⁵Appointment for the Spring Semester of 1945-1946 and the Summer Term of 1946.

¹⁵⁶Appointment for 1945-1946.

¹⁵⁷Appointment effective September 1, 1944.

¹⁵⁸Appointment effective September 1, 1944.

¹⁵⁹Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1944.

¹⁶⁰Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945; appointment to regular membership in the Graduate Faculty effective November 1, 1945.

¹⁶¹Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

¹⁶²Appointment for 1945-1946.

¹⁶³Appointment effective September 1, 1944.

- Leigh Peck, Assistant Professor of Educational Psychology.**
 B.A., North Texas State Teachers College, 1922; M.A., Texas, 1930; Ph.D., 1934.
- Forrest Kizer Pence, Professor of Ceramic Engineering; Director of the Research Laboratory in Ceramics.¹⁶⁴**
 B.S., Ohio Northern, 1903; B.A., Ohio State, 1907; Ceramic Engineer, 1909.
- Austin Phelps, Assistant Professor of Physiology.¹⁶⁵**
 Ph.B., Yale, 1928; Ph.D., 1932.
- Frederick Byron Plummer, Geologist, Bureau of Economic Geology.**
 B.S., Dartmouth College, 1909; M.S., 1911.
- DeWitt Carter Reddick, Professor of Journalism.**
 B.J., Texas, 1925; M.A., 1928; Ph.D., Missouri, 1940.
- Hilda Florence Rosene, Associate Professor of Physiology.¹⁶⁶**
 B.S., Washington, 1922; M.S., 1924; Ph.D., Texas, 1933.
- Dorothy Schons, Associate Professor of Romance Languages.**
 B.A., Minnesota, 1912; M.A., Chicago, 1922; Ph.D., 1932.
- William Shive, Assistant Professor of Biochemistry; Research Chemist, Biochemical Institute.¹⁶⁷**
 B.A., East Texas State Teachers College, 1937; M.A., Texas, 1939; Ph.D., 1941.
- Mildred Gertrude Spicer, Associate Professor of Home Economics.¹⁶⁸**
 B.S., Washington (Seattle), 1930; M.A., Columbia, 1935; Ph.D., Cornell, 1941.
- Theodore Stenberg, Associate Professor of English.¹⁶⁹**
 B.A., Minnesota, 1906; M.A., 1908; LL.B., Oregon, 1911; Ph.D., Cornell, 1926.
- Robert Clarence Stephenson, Associate Professor of English; Associate Professor of Romance Languages.¹⁷⁰**
 B.A., California, 1916; Ph.D., Texas, 1930.
- Adolph Benjamin Swanson, Professor of Romance Languages.**
 B.A., Augustana College, 1912; M.A., Iowa, 1915; Ph.D., Chicago, 1931.
- Carl Alvin Swanson, Associate Professor of Romance Languages.**
 B.A., Kansas, 1917; M.A., Chicago, 1923; Ph.D., 1930.
- Edwin Warren Titt, Associate Professor of Applied Mathematics and Astronomy.**
 B.A., Wichita, 1927; Ph.D., Princeton, 1932.
- Nina Lee Weisinger, Assistant Professor of Romance Languages.**
 B.A., Texas, 1909; M.A., California, 1912.
- Katherine Ernestine Wheatley, Associate Professor of Romance Languages.¹⁷¹**
 B.A., Texas, 1915; M.A., 1916; Ph.D., Chicago, 1930.
- Michael Max Winesanker, Professor of Musicology.¹⁷²**
 B.Mus., Toronto, 1933; M.A., Michigan, 1941; L.Mus., Trinity College (London); Ph.D., Cornell, 1944.

¹⁶⁴Appointment changed from *Associate Director and Research Technologist, Ceramics Project, Bureau of Industrial Chemistry* to *Professor of Ceramic Engineering; Director of the Research Laboratory in Ceramics*, effective September 1, 1945.

¹⁶⁵Appointment effective March 1, 1946.

¹⁶⁶Appointed to regular membership in the Graduate Faculty effective November 1, 1945.

¹⁶⁷Appointment effective September 1, 1945; appointment as *Research Chemist* for the Fall Term of 1945-1946 and as *Assistant Professor* effective November 1, 1945.

¹⁶⁸Appointment for 1943-1944 and 1944-1945; resignation effective June 30, 1945.

¹⁶⁹Appointment effective September 1, 1944.

¹⁷⁰Appointment changed from *Assistant Professor of Romance Languages* to *Associate Professor of English; Associate Professor of Romance Languages*, effective September 1, 1945; appointed also as *Special Instructor in English* for the Winter Semester of 1943-1944 and the Winter Semester of 1944-1945.

¹⁷¹Absent on leave for the Fall Term of 1944-1945 and from September 1, 1945, to December 1, 1945.

¹⁷²Appointment for 1945-1946.

Hans Matthias Wolff, *Instructor in Germanic Languages.*¹⁷³
J.D., Hamburg, 1934; Ph.D., Brown, 1938.

Orville Wyss, *Associate Professor of Bacteriology.*¹⁷⁴
B.S., Wisconsin, 1937; M.S., 1938; Ph.D., 1941.

GENERAL INFORMATION

For information about the following topics, see the General Information bulletin, Part V of the University catalogue: (1) Admission, Section I; (2) Registration, Section I; (3) Fees and Deposits, Section I; (4) Discipline, Section IV; (5) Living Accommodations, Section IV; (6) Libraries, Section VI.

FINANCIAL AID

For information about tutorships, assistantships, fellowships and scholarships, and loan funds, see Part I of the University catalogue. Many fellowships and scholarships are open to both undergraduates and graduates, but the following are exclusively for graduates: (1) University Advanced Fellowships and Fellowships, (2) Institution Administration Fellowships, (3) The Edgar Lewis Marston Fellowship, (4) The Dr. May Reitzel-Hopkins Fellowship, (5) Annie Webb Blanton Delta Kappa Gamma Scholarship, (6) Shell Petroleum Scholarship, (7) The Parke, Davis and Company Fellowship, (8) Stanolind Oil and Gas Company Fellowship, (9) Gulf Fellowship in Chemical Engineering, (10) Standard Oil Company of California Fellowship, (11) Clara Driscoll Scholarship, (12) Rosalie B. Hite Fellowships.

ADMISSION TO THE GRADUATE SCHOOL

Admission to the Graduate School, as to all other branches of the University, is under the control of the Registrar of the University, and all correspondence on this subject should be addressed to him. An applicant for admission to the Graduate School must hold a bachelor's degree from The University of Texas, or the equivalent; however, the mere possession of a bachelor's degree does not entitle a student to admission to the Graduate School. The work that he is planning to do must in the main be work that counts toward a graduate degree.

A student who took his bachelor's degree at another institution or who has done graduate work at another institution should have an official transcript of this work sent to the Registrar. The Registrar will admit a transferred student and will send to the student and to the Dean a statement about full admission or about conditions or prerequisites that must be completed in addition to the graduate program. The Dean of the Graduate School, in consultation with the Graduate Council, is authorized to substitute additional work in the major subject or in related subjects for freshman and sophomore conditions imposed by the Registrar on transferred students; provided (1) that a deficiency in foreign language shall have as its only substitute the passing of an examination in one foreign language, and (2) that

¹⁷³Appointment for 1943-1944 and 1944-1945; absent on leave for the Fall Term of 1943-1944; resignation effective February 28, 1946.

¹⁷⁴Appointment effective September 1, 1945.

a deficiency in English must be satisfied by some additional work in English, and (3) that the legal requirements of a course or examination in government shall be fulfilled.

Admission to the Graduate School does not imply approval of candidacy for a doctor's degree (see requirements for the degree of Doctor of Philosophy).

After a student has been admitted to the Graduate School and has secured a registration permit from the Registrar's Office, he should consult the Secretary to the Graduate Dean about his registration and other routine. His program must be approved by the Graduate Dean.

CLASSWORK AND ROUTINE

Character of graduate work.—The principal aim of graduate study is the development of the power of independent work and the promotion of the spirit of research. Consequently, the work expected from graduates is different in character from that usually demanded from undergraduates. Each graduate student must show that he has acquired the power of independent research before he will be admitted to the final examinations for his degree. In addition, each candidate is required to have a wide knowledge of his major subject and of related fields of work. Students are therefore expected to do assigned reading and laboratory work and to attend lectures and conferences for the purpose of getting advice and guidance which will be of use to them in their private research.

Selection of supervising professor and field of research.—So far as conditions allow, a graduate student may select his field of research and his appropriate supervising teacher for a thesis or for a dissertation from the official list of supervising teachers, subject to the approval of the Dean of the Graduate School and the selected teacher both as to the topic of research and as to the previous training of the student.

Grade of scholarship.—For graduate credit a student must attain a grade of at least *B*.

How to raise a low grade.—For graduate credit no term or semester grade may be raised except by repeating the term or semester involved.

Incomplete work.—Subject to the provisions listed in Section III of the General Information bulletin, a student who has been unable to complete all of the class or laboratory assignments in a semester or term of a course may have the symbol *X* reported.

Adding and dropping courses.—Go to the Graduate Dean's Office.

Withdrawal.—Go to the Graduate Dean's Office. When the Dean's permit is taken to the Registrar, an order will be given for the return of such fees as are by the rules returnable. No fees will be repaid to anyone other than the payer, except on his written order.

Form used for the thesis.—A pamphlet containing instructions concerning the form to be used for the final draft of the thesis may be secured at the office of the Dean of the Graduate School.

REQUIREMENTS FOR DEGREES¹**GENERAL REGULATIONS**

No honorary degree will be conferred by The University of Texas.

No degree will be conferred except publicly and on Commencement Day, ordinarily in June or in August, and the doctor's degrees only in June. For the duration of the war, however, degrees will be conferred at the end of each semester or term, but there will be a Commencement only in June.

It is desired that all candidates attend the Commencement at which their degree is to be conferred.

A candidate for a degree must register in the University and apply to the Dean of the Graduate School for his degree during the semester or term in which he is to receive his degree and not later than one month before the degree is to be conferred.

Residence.—Each candidate for a higher degree is required to spend at least one Long Session or the equivalent at the Main University or at the School of Medicine during the graduate course of study. To satisfy this requirement, a student must complete in residence not less than twenty-four semester hours of work for graduate credit.

Registration for the Master's thesis course must have covered a longer period than two summer terms, unless in an exceptional case the candidate's supervising committee unanimously recommends and the Dean approves acceptance of the thesis after a shorter time of preparation.

Work done in an extension center course or in a course taken *in absentia* will not be considered work in residence.

Credit will not be granted toward a master's degree for work done in other institutions.

For the doctor's degree a record of graduate work done in other universities may be sent to the Registrar for filing, but it is subject to the evaluation of the supervisory committee and subject to examinations as a part of the program for the degree.

Work done in extension classes may be allowed graduate credit to the extent of not more than six semester hours, provided that:

1. In each case both the course and the instructor be recommended by formal vote of The University of Texas faculty of the department or school directly concerned and approved by the Committee on Degrees and Courses of the Graduate Faculty.

2. To secure such credit the applicant, before taking a course, be accepted by the Registrar for admission to the Graduate School and approved by the Dean of the Graduate School for the course desired.

¹Because of war conditions, the printing of this issue of the Graduate Catalogue, due in May, 1945, was delayed. In order to take care of immediate needs, pp. 21 to 46 of this catalogue were printed in June, 1945, under the title, "Advance Printing of the Degree Requirements Section of the Graduate Catalogue." Since that time a few changes in degree requirements have been made; such changes are indicated here in footnotes in the degrees concerned.

Rank of courses.—In general graduate students may not receive graduate credit for junior courses.² For exceptions, see the statements under the various degrees and under each department in this catalogue.

Correspondence courses.—Courses done by correspondence are not accepted for higher degrees.

Courses counted for another degree.—No course to be counted toward an undergraduate degree may be counted toward any graduate degree, either directly or by substitution.

Work done for the master's degree may be included in the work for the degree of Doctor of Philosophy provided it is acceptable to the candidate's Supervisory Committee.

Work done by undergraduates for graduate credit.—An undergraduate who needs not more than twenty-seven semester hours of credit to complete requirements for his bachelor's degree may secure credit for additional courses to count toward a graduate degree only if before registration such courses are approved by the Dean of the Graduate School.

Minor or dissertation in music for the doctor's degree.—A candidate for the doctor's degree whose minor is music or music education or whose dissertation subject is largely in the field of music must pass a screening test for graduate students in music before being approved by the major department concerned.

SIX HOURS IN GOVERNMENT REQUIRED

The Forty-fifth Legislature passed the following law: ". . . Provided further, that after September 1, 1937, no student shall be certified for graduation from any tax-supported State educational institution with the award of a college degree unless such student shall have completed theretofore in a standard college or university at least six (6) hours for credit in the governments of the State of Texas or of the United States of America, or the equivalent in both. . . . said proviso shall be so construed and applied to affect only those students who enroll in such institutions after September 1, 1937, and shall not apply to students who enrolled in the tax-supported colleges or universities before said date."

GRADUATION UNDER A PARTICULAR CATALOGUE

To be admitted to the Graduate School, the student must satisfy the admission requirements as set down in the catalogue applying to the year in which he enters the School.

Subject to the restrictions stated in the next sentence, a student may receive a degree in the Graduate School in accordance with the degree requirements of the catalogue in force at the time he entered the School or of the catalogue governing any subsequent year in which he was a student in residence in the

²For a definition of rank of courses see the General Information bulletin.

School. In any case, however, all the requirements for a degree in the Graduate School must be completed within five years of the date of the catalogue chosen. This does not mean that if the student fails to complete the requirements for a degree within five years of the catalogue chosen he loses credit for work done, but that he must choose a later catalogue and fulfill the degree requirements as set down in it.

THE DEGREE OF DOCTOR OF PHILOSOPHY

The student should consult also the degree requirements in that part of this catalogue devoted to his major department.

1. Admission.—For admission to the Graduate School, see page 21; for admission to candidacy, see section 3 below.

2. Fields of study.—Major work toward the degree of Doctor of Philosophy may be done in the following subdivisions: Applied Mathematics, Bacteriology,³ Botany, Business Administration, Chemistry, Chemical Engineering, Classical Languages, Economics, Education, Electrical Engineering, English, Geology, Germanic Languages, Government, History, Mechanical Engineering, Philosophy, Physics, Psychology, Pure Mathematics, Romance Languages, Sociology,³ Zoology, and Physiology.

Ph.D. programs may, with the consent of the Graduate Council, follow lines of concentration that go beyond one of the major departments listed above. Agricultural economics and administration, the history of American civilization, and Latin-American studies have been approved as interdepartmental majors. Candidates interested in preparing themselves for the degree of Ph.D. in the history of American civilization should consult the Dean of the Graduate School for information concerning the prescribed course of study.

Minor work toward the degree may be done in any of the above departments that are properly correlated with the major field and in any other department of the Main University or the Medical Branch that offers sufficient advanced work and that is properly correlated with the major field.

3. Admission to candidacy.—A student should not apply for admission to candidacy until he has finished either a master's degree or the equivalent of one Long Session of full-time graduate work, and until he has at least one semester or one entire summer's work as a student in the Graduate School of The University of Texas. Every student who seeks the degree of Doctor of Philosophy must be admitted to candidacy by the graduate professors in his major department, or by an interdepartmental committee appointed by the Dean, either on the basis of a qualifying examination, written or oral, or both, or on the basis of such other method of approval as the department may specify. The application for candidacy must be approved by the Dean of the Graduate School.

³Bacteriology and sociology were added to this list after the Advance Printing of the Degree Requirements was issued (see footnote 1, p. 23).

No student will be admitted to candidacy for the degree of Doctor of Philosophy with a major in any branch of engineering until he has received a degree of Bachelor of Science in Engineering from The University of Texas or a degree of Bachelor of Science in Engineering from another school representing equivalent training.⁴

4. Supervising professor.—In each department that gives major work for the doctor's degree, registration for course number 99 is registration for a doctoral dissertation. Sometime after the student has been admitted to candidacy, he should select one of the supervising professors listed under the dissertation course in his department. This supervising professor will be in charge of the student's doctoral dissertation and will become chairman of the student's supervising committee for the doctor's degree. The preliminary planning of the student's program will be in the hands of the Dean and the major department or committee until the supervising professor has approved the student's proposed project of work for the dissertation. The next planning of the student's work will be in the hands of the supervising professor and the Dean. As soon as the main outlines of the student's graduate work have been planned, the student should submit a Record of Work for the Doctor's Degree. A form for this record may be secured from the secretary to the Dean of the Graduate School.

After the Record of Work has been received by the Dean, a supervising committee will be appointed by him with the student's supervising professor as the chairman of the committee. Thereafter, the student's supervising committee has the responsibility for guiding the student and for approving or rejecting the work presented by the candidate for the degree.

5. Course requirements.—The degree of Doctor of Philosophy is not based on any enumeration of courses or any computation of time. The degree represents not a specified amount of work covering a specified time but the attainment of independent and comprehensive scholarship in a selected field. Students will usually find that at least three full academic years of graduate work are necessary. Normally the doctoral degree is given only at the June Commencement; however, during the war the degree is given at the end of each semester and term. A candidate for a doctoral degree must be registered during the semester or term in which he receives the degree.

A candidate for the degree of Doctor of Philosophy is expected to have a major field which represents his most intensive field of study. This field may coincide with one department, or it may be one significant part of a department, or it may be a field which cuts across several departments. A student is expected to have one or two minors. Except by special permission of the Graduate Council, at least one minor must be in a department distinct from the major department but so closely related to it as to offer support for the work of the major subject. There is no general requirement about the exact fraction of work to be done in the major as distinct from the minor subject

⁴This paragraph has been changed to read: No student will be admitted to candidacy for the degree of Doctor of Philosophy with a major in any branch of engineering until he has satisfied the prerequisites for the degree of Master of Science in Engineering, as stated on p. 44.

or subjects. The division of the work between the major and minor subjects and the total amount of work in each field is in the hands of the supervising committee as approved by the Dean.

6. Examinations in foreign languages.—By the beginning of a student's last full year of graduate work (or last two full years if the department so specifies), he must have passed examinations that exhibit a reading knowledge of both French and German and any other language required by the candidate's supervising committee, except that students whose research requires another language may substitute that language for either French or German, with the approval of the supervising committee and the Dean. The language examinations will be given with the permission of the Dean by representatives of the foreign language departments concerned. Students should consult the representatives of the foreign language departments at the beginning of their graduate study here in order to get instructions concerning the requirements of the examination. These examinations must be taken in residence at the Main University. The candidate will be expected to read publications in his major field of study.

7. Doctoral dissertation.—A doctoral dissertation is required of every candidate. The dissertation must give evidence of ability to do independent investigation in the major field, and it must itself constitute a contribution to knowledge. It must be accepted by the candidate's supervising committee, though the committee may appoint a sub-committee to pass on the dissertation. At least two copies of the dissertation, in final form but unbound, must be brought to the office of the Dean of the Graduate School two months before the time the degree is to be conferred, so that the members of the candidate's supervising committee may have ample time for reading the dissertation. Two bound typewritten copies of the approved dissertation must be filed in the office of the Dean of the Graduate School, for public inspection, one month before the degree is to be conferred. Information concerning forms for the doctoral dissertation and concerning the binding of the two typewritten copies for the Library may be obtained in the office of the Graduate Dean.

The major department or committee may require the publication of dissertations in whole or in part.

8. Final examinations.—The supervising committee shall test the candidate's mastery of the major and minor fields by written examinations and such other means as it may approve. The committee shall give a final oral examination after the acceptance of the dissertation. The nature of the final oral examination will be determined by the committee. The final oral examination is given at the Main University at a date and place to be fixed by the chairman of the supervising committee with the approval of the Dean. This examination must be given before the beginning of the regular final examination period.

9. Summary of routine.—(1) Admission to the Graduate School through official transcripts of previous work in other institutions sent to the Registrar; permit to register from the Office of the Registrar; and registration in the Office of the Dean of the Graduate School.

(2) Admission to candidacy by the major department or committee with the approval of the Dean.

(3) Selection of a supervising professor and filling out a thesis information card, showing the field of the dissertation as approved by the supervisor, filed in the Dean's office.

(4) Submission of a Record of Work to the secretary to the Dean, whereupon the supervising committee will be appointed by the Dean.

(5) Passing of foreign language examinations by the beginning of the last full year of graduate work (or the last two full years if the department so specifies). Blanks to present to examiners for certification of results should be secured from the secretary in the Dean's office.

(6) Notice of the date of expected graduation given by filing a diploma name card in the Dean's office when an applicant registers in the session in which he expects to get his degree.

(7) Two final unbound copies of the dissertation to be brought to the office of the Dean not later than two months before the time the degree is to be conferred. Two bound copies of the dissertation approved by the committee to be filed in the office of the Dean not later than one month before the degree is to be conferred.

(Each candidate must submit to the office of the Dean with the thesis two months before the degree is to be conferred enough copies of a brief abstract of his dissertation to allow two copies to be filed in the Dean's office and one to be sent to each member of the supervisory committee, and two separate copies of the biographical sketch.)

(8) Passing of written major and minor examinations conducted by the supervising committee at a date set by the committee.

(9) Formal request for the final oral examination, signed by the chairman, filed in the office of the Dean for his approval.

(10) Written report, signed by the supervising committee with respect to the dissertation and the final written and oral examinations, filed in the Dean's office for final approval by the Dean.

THE DEGREE OF DOCTOR OF EDUCATION

Candidacy.—A graduate student desiring to become a candidate for the doctor's degree should not, if entering upon graduate work for the first time, make formal application for candidacy until he has worked a sufficient length of time to become known to his instructors. The application for candidacy for the doctor's degree must be endorsed by the student's supervisory committee, and must be accompanied by (1) certificates setting forth that the student possesses a satisfactory command of English, both oral and written, and sufficient linguistic equipment to do the required work; (2) certified statements of his previous work, both undergraduate and graduate, accompanied by papers written or other suitable evidence of original work done.

Requirements.—The degree of Doctor of Education is not based on any enumeration of courses or any computation of time. The degree represents not a specified amount of work covering a specified time but the attainment of independent and comprehensive scholarship in a selected field.

For the degree of Doctor of Education, the fundamental requirements are as follows:

(1) Completion of the requirements for a Bachelor of Arts or a Bachelor of Science in Education degree at The University of Texas, or an equivalent bachelor's degree at another institution. A Bachelor of Arts or a Bachelor of Science degree from a Texas state teachers college, based upon a minimum of 120 semester hours, will satisfy this requirement, provided the holder of such degree has satisfied the college admission requirements of The University of Texas and presents the equivalent of thirty semester hours of junior rank or above as given at The University of Texas, twelve of which must be in education and at least twelve of the remainder in one academic field.

(2) The satisfactory completion of a preliminary examination covering certain basal courses in education in (a) curriculum and instruction, (b) educational administration, (c) history and philosophy of education, (d) educational psychology, and (e) physical education. A list of these specific courses may be obtained from the Graduate Dean's Office. This examination precedes admission to candidacy for the degree and should come preferably at the end of the first year of graduate work.

(3) The course of study leading to this degree, to be pursued for a minimum period of three years beyond the bachelor's degree, at least one of which must be passed in residence at The University of Texas. The subject and course requirements for each student shall be determined by his supervisory committee, with the approval of the Dean of the Graduate School, and may include a minor or minors outside the College of Education.

(4) High attainments in scholarship and the power of attacking a suitable problem in an independent and efficient manner, to be shown by examinations to be passed at a convenient time and by a thesis dealing with the major subject.

The thesis is of first importance. It must show not only creditable literary workmanship and good command of the resources of expression, but also original treatment of a fitting subject or evidence of independent research. The inquiry should ordinarily be confined within narrow bounds; the treatment should be as concise as the subject permits and show familiarity with the history of the problem, the literature bearing upon it, and the latest methods of research applicable to it. Every thesis should contain a clear introductory statement of the object of the investigation and a final résumé of results, together with an index of the contents and a bibliography of the subject. Two typewritten copies of the thesis must be filed with the Dean of the Graduate School, for public examination, one month before the degree is conferred. The supervisory committee may appoint a sub-committee to pass upon the thesis. The thesis must be accepted before the final examinations are given to the candidate, unless the supervisory committee and the Dean of the Graduate School authorize them to be given earlier under the following conditions: (a) After the satisfactory completion of all the work assigned in the field by the supervisory committee, and the satisfactory completion of the preliminary examinations and the foreign language examinations, but

not earlier than nine months, or the October, preceding the June Commencement at which the candidate expects to receive the doctor's degree, the written examinations may be given when a formal request is made and signed by the members of the supervisory committee and approved by the Dean of the Graduate School. (b) The supervisory committee reserves the right to interrogate the candidate further upon the field thus passed during the final oral examination to be taken after the thesis has been approved and all of the final written examinations have been passed. (c) The supervisory committee signs the original petition for the written examination and reports in writing the result of the examination to the Dean of the Graduate School.

After the thesis has been accepted, 100 printed copies must be deposited in the University Library.

(5) A reading knowledge of two foreign languages, or a reading knowledge of one foreign language and a mastery of statistical techniques as applied to education.

The foreign languages are French and German unless the candidate's supervisory committee, with the approval of the Dean of the Graduate School, permits the substitution for either one (but not for both) of Spanish as a necessary tool for the candidate's research.

To test his knowledge of foreign languages, the candidate must pass examinations, preferably during the second year and in no case later than six months before coming up for the degree. The examinations will be given by the foreign language departments concerned and certified by the departmental chairmen to the Dean. The candidate is advised to consult with his supervisory committee and with the language departments concerned in regard to the scope of these examinations. In general, the candidate will be expected to read in the required languages certain writings in his major field of study.

The substitute of statistical techniques for either language likewise requires the approval of the committee and the Dean. The examination for testing the knowledge of statistical techniques is administered by a committee appointed by the Dean of the Graduate School.⁵ Where statistical techniques are substituted for one of the language requirements, courses in these techniques cannot be counted in a student's minor or minors.

(6) At least twenty-four months of successful experience in teaching or other educational work, evidence of which must be presented by the candidate before he will be recommended for the degree.

(7) Approval of the course of study by the candidate's supervisory committee and the Dean of the Graduate School. The supervisory committee, chosen from the teaching staff of the departments in which the work of the candidate lies, supervises his work in general; determines the linguistic and other requirements he must satisfy; holds his major and minor examinations; passes upon his thesis; determines the scope of the oral examination for the degree; and reports in writing to the Dean of the Graduate School the results of the examinations and the acceptance or rejection of the thesis. The final

⁵The examination in statistical technique shall be based upon Education 371 and an additional three hours to be provided, and a prerequisite of six semester hours in mathematics.

acceptance or rejection of the candidate requires the approval of the supervisory committee and the Dean of the Graduate School.

Summary of routine.—Same as section 9 under The Degree of Doctor of Philosophy (pp. 27-28), except that, in addition, a certificate of teaching experience from the College of Education must be filed in the office of the Graduate Dean.

THE DEGREE OF MASTER OF ARTS

(General)

Prerequisites.—(1) For the degree of Master of Arts one prerequisite is the degree of Bachelor of Arts from The University of Texas or a bachelor's degree from this or another school representing an equivalent training. In the latter case "equivalent training" will be interpreted as including the requirements of the general Bachelor of Arts degree, except that (a) the group requirements need not be absolutely fulfilled and (b) the two science courses need not be in separate subjects; provided, however, that a bachelor's degree from any university which is a member of the Association of American Universities will be accepted as equivalent to the corresponding degree of The University of Texas.

(2) The prerequisite for majoring in any department or school is at least twelve semester hours of advanced courses in that department or school.

(3) The department has the right to examine the candidate on the prerequisites to the major subject before his application for the degree is approved. The examination may be either written or oral, at the discretion of the department. This examination will not be required in the case of students who have passed the major examination in the same subject for the bachelor's degree from The University of Texas.

Departments in which major and minor work may be done.—Major or minor work for the degree of Master of Arts may be done in the following departments of Arts and Sciences: Anthropology, Applied Mathematics and Astronomy, Botany and Bacteriology, Chemistry, Classical Languages, Economics, English, Geology, Germanic Languages, Government, History, Philosophy, Physics, Psychology, Pure Mathematics, Romance Languages, Sociology, and Zoology and Physiology; in the College of Education; and in the following departments of the School of Medicine: Anatomy, Bacteriology and Preventive Medicine, Biological Chemistry, Pathology, Pathological Chemistry, Pharmacology, and Physiology. Minor work may be done in library science for the degree of Master of Arts with a major in literature, social sciences, or education. For a major in education or literature for the degree of Master of Arts, approved courses in Drama may be counted as a minor.

Requirements.—For the degree of Master of Arts the equivalent of thirty semester hours of advanced or graduate instruction completed with a grade of *A* or *B* is required. In general graduate students may not receive graduate credit for junior courses.⁶ For exceptions, see the statement under each

⁶For a definition of rank of courses, see the General Information bulletin.

department in this catalogue. The proposed course of study must be approved by the Dean.

Three-fifths of this work, eighteen semester hours, including a thesis, constitutes the major and must be done in one department. Such time as the instructor in charge and the Dean may approve must be devoted to the preparation of the thesis, usually regarded as six semester hours, and this thesis must be approved by the instructor in charge, by a committee appointed by the Dean, and by the Dean.

The remaining two-fifths, twelve semester hours, constitutes the minor, or minors, and must be selected outside the department in which the major is to be done, except that any foreign language may be taken as a minor to another foreign language. With the consent of the department in which the major is taken and with the approval of the Dean, the candidate may take one minor outside the College of Arts and Sciences. With the consent of the department in which the major is taken, students majoring in the experimental sciences may take both minors in the College of Engineering. The correlation of the major and minor subjects must be approved by the Dean. If the minor work is divided, it must be in two departments, except by special permission of the Dean.

Certain specific requirements in each department will be found in the section of the catalogue devoted to the departments, under the heading "Degree Requirements."

Required routine, including application for degree.—Each applicant must submit to the office of the Dean (1) a diploma card when he registers in the semester or term in which he expects to get his degree; (2) a thesis information card when the field of the thesis and the supervising professor have been chosen; (3) an application blank for the degree, with the title of his proposed thesis, approved by the professor who is directing the thesis, at least one month before the degree is to be conferred; (4) the final copy of the thesis, unbound, for examination by the Dean and the committee appointed by the Dean, not later than two weeks before the beginning of final examinations in the semester or term in which the degree is to be conferred; (5) the final copy, unbound, after approval by the instructor in charge, the committee, and the Dean, not later than noon of the last working day before the beginning of final examinations in the semester or term in which the degree is to be conferred.

THE DEGREE OF MASTER OF ARTS

(in Public Administration)

Prerequisites.—(1) The degree of Bachelor of Arts from The University of Texas or a bachelor's degree from this or another school representing an equivalent training. In the latter case "equivalent training" will be interpreted as including the requirements of the general Bachelor of Arts degree, except that (a) the group requirements need not be absolutely fulfilled and (b) the two science courses need not be in separate subjects; provided, however,

that a bachelor's degree from any university which is a member of the Association of American Universities will be accepted as equivalent to the corresponding degree of The University of Texas.

(2) Credit for at least twelve semester hours of advanced work in either economics or government or sociology, or twelve semester hours of advanced work in more than one of these departments provided they are courses selected from the courses listed under the group in which the candidate specializes for the degree.

Requirements.—For this degree thirty semester hours of advanced or graduate instruction completed with a grade of *A* or *B* are required, as follows:

(1) A thesis, usually regarded as six semester hours, in economics or government or sociology. To be accepted it must have the approval of the instructor in charge, of a committee appointed by the Dean, and of the Dean.

(2) Twenty-four semester hours chosen from one of the following groups: Public Welfare Administration, Financial Administration, Administrative Organization and Operation. The twenty-four semester hours must represent not less than three different departments and/or schools. The junior courses may be included only if the approval of the thesis supervisor and the Graduate Dean is obtained prior to or at the time of registration.

A full program is not now offered in the field of Public Administration. A student wishing to work in this field should write to the office of the Dean of the Graduate School before planning to come for such work.

Required routine, including application for degree.—The required routine is the same as for the degree of Master of Arts (General), page 32.

THE DEGREE OF MASTER OF ARTS

(in Latin-American Studies)

Prerequisites.—(1) The degree of Bachelor of Arts with a major in Latin-American Studies, from The University of Texas, or the equivalent, or a bachelor's degree from this or another school representing an equivalent training. In the latter case "equivalent training" will be interpreted as including the requirements of the Bachelor of Arts degree, except that (a) the group requirements need not be absolutely fulfilled and (b) the two science courses need not be in separate subjects; provided, however, that a bachelor's degree from any university which is a member of the Association of American Universities will be accepted as equivalent to the corresponding degree of The University of Texas.

(2) Credit for at least twelve semester hours of numbered courses in Spanish.

Work for the degree of Master of Arts in Latin-American Studies may be done in the following departments of the Graduate School: Anthropology, Art, Business Administration, Economics, Education, Geology, Government, History, Music, and Spanish.

Requirements.—For this degree thirty semester hours of advanced or graduate instruction completed with a grade of *A* or *B* are required, as follows:

(1) A thesis, usually regarded as six semester hours, in one of the following departments: Anthropology, Business Administration, Economics, Education, Government, History, and Spanish. To be accepted it must have the approval of the instructor in charge, of a committee appointed by the Dean of the Graduate School, and of the Dean.

(2) Twenty-four semester hours chosen from a list of courses which is available in the office of the Chairman of the Executive Committee of the Institute of Latin-American Studies and in the office of the Dean of the Graduate School or in the bulletin of the Institute of Latin-American Studies. The twenty-four semester hours must represent three different departments and/or schools, and at least twelve semester hours must relate specifically to Latin America. Six semester hours in Spanish are recommended. The junior courses listed may be included only if the approval of the Chairman of the Executive Committee of the Institute of Latin-American Studies and the Graduate Dean is obtained prior to or at the time of registration.

Required routine, including application for degree.—A student wishing to begin work for this degree should, before his registration and selection of courses, consult with the professor in the field of his concentration and with the Chairman of the Executive Committee of the Institute of Latin-American Studies.

The required routine is the same as for the degree of Master of Arts (General), page 32.

THE DEGREE OF MASTER IN BUSINESS ADMINISTRATION

PLAN I

Prerequisites.—An applicant for this degree must hold a bachelor's degree from The University of Texas or an equivalent degree from an approved institution, and must have credit, either inclusive or exclusive, for at least six semester hours of principles of economics and for at least thirty semester hours of work in business administration, including some work in accounting, business law, finance, marketing, and statistics.⁷ Attention is called to the fact that all credits granted students from other colleges are granted on the condition that satisfactory work is done here.

Requirements.—The requirements for the degree of Master in Business Administration are as follows:

(1) Thirty semester hours of senior and graduate courses in business administration, including Business Administration 98 and one course of the seminar type, each of the thirty completed with grades of *A* or *B*. On the

⁷The following has been added to this sentence: "except in the case of students specializing in resources, who may make substitutions suggested by the professor in charge and approved by the deans of the College of Business Administration and the Graduate School, these substitutions to include Business Administration 336, 73Ga, and 73Gb."

recommendation of the professor supervising the thesis, there may be substituted within this program not more than twelve semester hours of advanced work in any department or school of the University, provided they are advantageous to the objectives of the student.

(2) Credit for not less than sixty semester hours in business administration, including prerequisite and degree requirements.⁸

(3) A thesis (produced as all or a part of Business Administration 98) approved by the committee appointed for the purpose and by the Dean of the Graduate School.

(4) The passing of a general examination before the beginning of the final examination period of the term or semester in which the degree is to be conferred. The examining committee shall consist of three faculty members appointed by the Dean of the Graduate School.

(5) Evidence of business capacity as shown by business experience satisfactory to the Dean of the College of Business Administration.⁹

Required routine, including application for degree.—The graduate student in business administration should confer with the professor in the field of his concentration and with the Dean of the College of Business Administration before or at the time of his registration in order to arrange a tentative program of work.

An applicant for the Master in Business Administration degree must present to the Dean of the Graduate School (1) a diploma card when he registers in the term or semester in which he expects to get his degree; (2) a certification by the Dean of the College of Business Administration of approval of the proposed course of study and evidence of business capacity, to be filed at the opening of the semester or term in which the applicant expects to get his degree; (3) an application for the degree, with the title of his proposed thesis, approved by the professor who is directing the thesis, at least one month before the degree is to be conferred; (4) a certificate of the examining committee that the general examination has been satisfactorily passed; and (5) two typewritten copies of the finished thesis, unbound, after approval by the professor in charge, the committee, and the Dean of the Graduate School, not later than noon of the last working day before the beginning of final examinations in the semester or term in which the degree is to be conferred. (The thesis must be ready for the examining committee ten days prior to the final date.)

PLAN II

By choosing the following plan at the beginning of the junior year or not later than the beginning of the senior year, the student may make elections which will give him a curriculum including a concentration in any division of business administration with such courses in economics and government as will fit him for service in either governmental or business fields.

⁸The following has been added to this sentence: "except in the case of students specializing in resources, who need only forty-eight semester hours."

⁹The following has been added to this sentence: "except in the case of students specializing in resources."

Prerequisites.—An applicant for a degree under this plan must hold a bachelor's degree from The University of Texas or an equivalent degree from an approved institution.

Requirements.—For the degree of Master in Business Administration under this plan, the requirements are:

(1) The year of graduate work in business administration, consisting of thirty semester hours of senior and graduate instruction, each course completed with a grade of *A* or *B*. The proposed course of study, approved before or at registration by the Dean of the College of Business Administration and the Dean of the Graduate School, may include advanced courses in other departments of the University provided they are in the student's field of study.

(2) A thesis or research report approved by the committee appointed for the purpose and by the Dean of the Graduate School.

(3) The following requirements, to be included in the combined graduate and undergraduate work: Accounting, six advanced semester hours; Economics, including Corporation Finance and at least three hours of theory, nine advanced semester hours; Government, six advanced semester hours; Philosophy (Ethics), three semester hours; Business Correspondence, four semester hours; Business Law, six semester hours; Business Statistics, six semester hours; Marketing or Cotton Marketing, seven semester hours; Short-Term Finance, four semester hours; Investments, three semester hours; Management, six semester hours; and Foreign Trade, three semester hours.

(4) Thirty semester hours of senior or graduate courses in business administration, to be included in the combined graduate and undergraduate work.

(5) A satisfactory report upon business practice based upon observations and investigation during three to six months of business experience.

Required routine, including application for degree.—A student wishing to work under this plan should consult with the Dean of the College of Business Administration at the beginning of his junior year or as soon thereafter as he undertakes any of the elective work.

The applicant must present to the Dean of the Graduate School (1) a diploma card when he registers in the term or semester in which he expects to get his degree; (2) an application for the degree at least one month before the degree is to be conferred; (3) certification by the Dean of the College of Business Administration that the report upon business practice has been accepted; (4) two typewritten copies of the finished thesis, unbound, after approval by the professor in charge, the committee, and the Dean of the Graduate School, not later than noon of the last working day before the beginning of final examinations in the semester or term in which the degree is to be conferred. (The thesis must be ready for the examining committee ten days prior to the final date.)

THE DEGREE OF MASTER OF EDUCATION

Prerequisites.—(1) A degree of Bachelor of Science in Education or Bachelor of Arts or Bachelor of Science in Home Economics from The Univer-

sity of Texas, or a bachelor's degree from here or elsewhere representing equivalent training, is prerequisite to the degree of Master of Education. However, a Bachelor of Arts or a Bachelor of Science degree from a Texas state teachers college will satisfy this requirement, provided the holder of such degree has satisfied the college entrance requirements of The University of Texas and presents the equivalent of thirty semester hours of junior rank or above at The University of Texas, twelve of which must be in education and at least twelve of the remainder in one academic field.

(2) Another prerequisite is at least twenty-four semester hours in education, not less than twelve of which must be advanced.

Requirements.¹⁰—For the degree of Master of Education the equivalent of thirty semester hours of advanced or graduate instruction completed with a grade of *A* or *B* is required. The proposed course of study must be approved by the Dean.

Three-fifths of this work, eighteen semester hours, including a thesis, constitutes the major and must be done in the College of Education. Such time as the instructor in charge and the Dean may approve must be devoted to the preparation of the thesis, usually regarded as six semester hours, and this thesis must be approved by the instructor in charge, by a committee appointed by the Dean, and by the Dean. At least six semester hours of the major must be acceptable to the department of the College of Education in which the thesis is presented.

The remaining two-fifths, twelve semester hours, constitutes the minor, or minors, and must be selected outside the College of Education. The correlation of the major and minor subjects must be approved by the Dean.

A student may count not more than nine semester hours of junior work on this degree, of which not more than three semester hours may be in the major.

Required routine, including application for degree.—Each applicant must submit to the office of the Dean (1) a diploma card when he registers in the term or semester in which he expects to get his degree; (2) a thesis information card when the field of the thesis and the supervising professor have been chosen; (3) an application blank for the degree, with the title of his proposed thesis, approved by the professor who is directing the thesis, at least one month before the degree is to be conferred; (4) the final copy of the thesis, unbound, for examination by the Dean and the committee appointed by the Dean, not later than two weeks before the beginning of final examinations in the semester or term in which the degree is to be conferred; (5) two final copies, unbound, after approval by the instructor in charge, the committee, and the Dean, not later than noon of the last working day before the beginning of final examinations in the semester or term in which the degree is to be conferred.

¹⁰This whole section on requirements has been changed. See pp. 47-48 for the new requirements.

THE DEGREE OF MASTER OF JOURNALISM

Prerequisites.—For the degree of Master of Journalism the prerequisite is a degree of Bachelor of Journalism from The University of Texas, or a degree of Bachelor of Arts from The University of Texas with not less than twenty-four semester hours in journalism, eighteen of which must be advanced, or a bachelor's degree from another institution representing training equivalent to one of the foregoing stipulations.

Requirements.—For the degree of Master of Journalism the requirements are the equivalent of thirty semester hours of advanced or graduate instruction, approved in advance by the Dean, four-fifths of which, twenty-four semester hours, must be in journalism and one-fifth, six semester hours, in English, all completed with a grade of *A* or *B*. The student's credits in journalism must include Journalism 320, or its equivalent, taken either as undergraduate or graduate work. Such time as the instructor in charge and the Dean may approve must be devoted to the preparation of a thesis, usually counting as six of the twenty-four semester hours required in journalism.

Candidates who have taken the degree of Bachelor of Journalism at The University of Texas may, with the consent of the instructor in charge and the Dean, present eighteen semester hours of advanced courses in journalism and either twelve semester hours of advanced courses in English or a total of twelve semester hours of advanced courses of which not less than six are in English and not more than six are in the social science in which the student has presented twelve semester hours of credit for his bachelor's degree.

In addition to the thesis, students will be expected to choose as much of their work at the senior and graduate level as is consistent with a good graduate program. In order to count any junior courses on this degree, the student must have the approval of both the Chairman of the Department of Journalism and the Dean of the Graduate School prior to or at the time of registration.

Required routine, including application for degree.—Same as for the degree of Master of Arts (p. 32).

THE DEGREE OF MASTER OF MUSIC

The degree is offered in applied music¹¹ (Piano, Organ, Violin, Violoncello, Voice), in composition, in theory, in music education, and in musicology.

Prerequisites.—The prerequisites for the degree of Master of Music are as follows:

1. A bachelor's degree with a major in music from The University of Texas or an equivalent degree from an approved institution. In applied music the bachelor's degree must be with honors from The University of Texas or the equivalent from another institution. In musicology the undergraduate major must have been done with a grade of not less than *B* and must have included at least twelve semester hours in music history or literature.

¹¹Majors will be offered as graduate faculty is available.

2. Admission to candidacy. Admission to the Graduate School does not necessarily imply admission to candidacy for a degree. Before acceptance as a candidate for a degree the student must satisfactorily complete qualifying examinations in the several fields. No credit is given for these examinations, and they do not become a part of the permanent academic record but rather serve as a guide to the program of courses to be arranged to meet graduation requirements.¹²

Qualifying Examinations.

A. Applied Music. The student must present an applied music repertoire corresponding to that required for a Bachelor of Music with a major in that particular instrument at The University of Texas. He must perform from memory a forty minute audition recital, and, in addition, a concerto, before the applied music faculty. (Voice majors will present an opera and an oratorio aria in addition to the forty minute audition.) He must also pass a comprehensive examination covering the history of music, theory, and pedagogy in special relation to the instrument chosen. This examination will be both written and oral and will be given by a committee of three or four professors appointed by the Dean of the Graduate School.

B. Composition and Theory. Qualifying examinations will be given in the following fields assumed to have been included in an undergraduate degree with a major in music:

- (1) Applied music. Auditions on the student's principal instrument will be held on the two days preceding registration.
- (2) Aural theory: Dictation and sight reading. The examination will be given on the two days preceding registration.
- (3) Written theory: Harmony and analysis of form. Students are urged to present notebooks or other evidence of the quality and extent of previous training in this field.
- (4) History and literature of music. A transcript of record for a year's course with acceptable grade is sufficient.

C. Music Education. Qualifying examinations will be given as listed above under Composition and Theory and in

(5) Music education. The examination will cover methods, conducting techniques, sight singing, and sight playing (piano). Individual appointments will be made with the Professor of Music Education. Public school methods, directed teaching, and conducting interviews will be held on the two days preceding registration. Notebooks and other evidences of training and experience may be submitted.

D. Musicology.

(1) Applied Music. Candidates will be required to show proficiency in vocal or instrumental performance equivalent to the requirement for admission to Applied Music 460. If the candidate's major instrument is not piano, he will be required to complete Piano 410.

¹²A paragraph has been added here, as follows: "No graduate student may register for further courses for graduate credit in music after one semester or term of study in residence until he has completed the qualifying examinations in music."

(2) Sight Reading. Playing at sight a piano piece equal in difficulty to the works studied in Piano 401.

(3) Aural Theory. Dictation and sight singing.

(4) Score Reading. Playing at sight (a) a simple *a cappella* vocal score of four staves, with the usual clefs (Soprano C, Alto C, Tenor C, Bass F); (b) an orchestral or chamber music score of the period of Mozart; (c) a solo song with piano accompaniment.

(5) Harmonic and formal analysis of a composition of the eighteenth or nineteenth century, such as a movement from a Bach concerto or Beethoven symphony, the first movement of Franck's Violin Sonata, the first movement of Schubert's C Major Quintet.

(6) History of Music. The candidate will be required to determine, on the basis of style-analysis, the period, school, or composer of a number of unidentified excerpts of music selected from the period of 1400 to the present.

(7) Foreign Languages. The candidate will be required to pass an examination in German to test his ability to read without the help of a dictionary (a) ordinary prose, (b) poetry, particularly lyric poetry of the sort often set to music, and (c) musicological German of the difficulty of Riemann's *Handbuch der Musikgeschichte*. In addition, he must have at least an elementary knowledge of French (this requirement may be satisfied by six semester hours of numbered courses in French passed with a grade of *C* or better). In special cases where the field of study so indicates, another language may be substituted for French.

3. Approval. On the basis of all the evidence available—transcript of record, results of qualifying examinations, and conference with advisory committee—the applicant will be accepted as a candidate for the Master of Music degree with or without conditions.

Students presenting poor undergraduate records or students who graduated from an unaccredited institution may be admitted with conditions but, in addition to being subject to the conditions already stated, must make a clearly satisfactory classroom record (at least a *C* average) in their undergraduate work during their first semester at the University in order to acquire graduate credit in the graduate courses elected.

Requirements.—*A. Applied Music.*

1. For the degree of Master of Music in Applied Music, the equivalent of thirty semester hours of senior and graduate instruction, completed with a grade of *A* or *B*, is required. The proposed course of study must be approved by the Dean of the College of Fine Arts and the Dean of the Graduate School.

2. Fourteen to eighteen hours in applied music constitutes the major. This must include eight to twelve hours in the applied music major; a recital and an appearance as soloist with orchestra will constitute six hours. The recital shall be a recorded performance to be judged by ballot of the music faculty and some faculty members outside the Department of Music to be appointed by the Dean of the Graduate School.

3. Twelve to sixteen semester hours constitute the minor and must be selected from one or more of the following: Music theory, music education,

music history and literature, or non-music courses of senior or graduate level to be approved by the Deans of the College of Fine Arts and the Graduate School.

B. Composition.

1. For the degree of Master of Music in Composition, the equivalent of thirty semester hours of senior and graduate instruction, completed with a grade of *A* or *B*, is required. The proposed course of study must be approved by the Dean of the College of Fine Arts and the Dean of the Graduate School.

2. The thesis will consist of an original work in one of the larger forms. This work should demonstrate a mature grasp of form, contrapuntal technique, and instrumentation.

3. Course 460 in the principal instrument, Music 465, 488, 98 (thesis). (Total 18 hours.)

4. The remaining twelve hours must be selected from the following: Music 262, 363, 267, 371, 372, 73a.i, 73b.i, 375, 376, 377, 378, 80, 85,* or other courses of senior or graduate level approved by the graduate committee.

C. Theory.

1. For the degree of Master of Music in Theory, the equivalent of thirty semester hours of senior and graduate instruction, completed with a grade of *A* or *B*, is required. The proposed course of study must be approved by the Dean of the College of Fine Arts and the Dean of the Graduate School.

2. The student will first discuss a suitable thesis topic with his faculty advisor. He will then present his thesis topic for the approval of the graduate committee.

3. Course 460 in the principal instrument, Music 461P, 465, 98 (thesis). (Total 18 hours.)

4. The remaining twelve hours must be selected from the following: Music 262, 363, 267, 371, 372, 73a.i, 73b.i, 375, 376, 377, 378, 80, 85,* or other courses of senior or graduate level approved by the graduate committee.

D. Music Education.

1. For the degree of Master of Music in Music Education, the equivalent of thirty semester hours of senior and graduate instruction, completed with a grade of *A* or *B*, is required. The proposed course of study must be approved by the Dean of the College of Fine Arts and the Dean of the Graduate School.

2. Twelve to eighteen semester hours, including the thesis, in music education and four to eight semester hours in applied music constitute the major. The work in music education must be selected from the following courses: Music 262, 82, 283,† 284,‡ and 98. The work in applied music must be a continuation of the study of the principal instrument offered for admission, or voice, or other instruments as may be approved by the student's supervisory committee. The senior course (460) in the principal instrument should be completed before other instruments are elected.

*Music 85, *Introduction to Research in Music*.

†Music 283, *Symposium in Music Education*; Music 284, *School Band and Orchestra Problems*.

3. Six to twelve semester hours constitute the minor and must be selected from one or more of the following groups: (1) Aural theory: Music 464; (2) written theory: Music 465, 466, 468; (3) musicology: Music 371, 372, 473, 474, 375, 376, 377, 378, 279, 80; (4) Any nonmusical field of study for which the student has the requisite preparation. If there is a deficiency in aural or written theory at the time of admission to candidacy, that field must be included in the program of studies for the graduate degree.

E. Musicology.

1. For the degree of Master of Music in Musicology, the equivalent of thirty semester hours of senior and graduate instruction, completed with a grade of *A* or *B*, is required. The proposed course of study must be approved by the Dean of the Graduate School.

2. Eighteen semester hours in musicology and history of music constitute the major. These courses must include Music 85,* Music 98 (thesis), and at least six hours chosen from the following: Music 371, 372, 73, 375, 376, 377, 378, 80.

3. Twelve semester hours constitute the minor and must be selected from one or more of the following groups: (a) Applied Music: Course 460; (b) Theory: Music 464, 465, 466, 267, 468; (c) Music Education: Music 262, 82, 83K; (d) A related nonmusical field; the choice of the field and courses must be approved by the student's advisor and by the Deans of the College of Fine Arts and the Graduate School.

The thesis must be an original and independent investigation of a topic approved by the student's advisor. There will be an oral examination covering the general field of the thesis subject.

Required routine, including application for degree.—Same as for the degree of Master of Education (p. 37), with evidence of satisfactory completion of recital in lieu of thesis for the major in applied music.

THE DEGREE OF MASTER OF SCIENCE IN HOME ECONOMICS

Prerequisite.—For the degree of Master of Science in Home Economics, the degree of Bachelor of Science in Home Economics from The University of Texas, or a bachelor's degree from this or another school representing equivalent training, is prerequisite.

Requirements.—For the degree of Master of Science in Home Economics, the equivalent of thirty semester hours of advanced or graduate instruction completed with a grade of *A* or *B* is required. The proposed course of study must be approved by the Dean.

Three-fifths of this work, eighteen semester hours, including a thesis, constitutes the major and must be done in the Department of Home Economics. Such time as the instructor in charge and the Dean may approve must be devoted to the preparation of the thesis, usually regarded as six semester hours, and this thesis must be approved by the instructor in charge, by a committee appointed by the Dean for this purpose, and by the Dean.

*Music 85, *Introduction to Research in Music*.

The remaining two-fifths, twelve semester hours, constitutes the minor, or minors, and must be selected outside the Department of Home Economics, confined preferably to the physical sciences, natural sciences, education, or the social sciences. The correlation of the major and minor subjects must be approved by the Dean.

Candidates for the degree with a major in institution administration may divide the thirty semester hours between a major with eighteen to twenty-four semester hours and a minor with twelve to six semester hours.

A student majoring in the nutrition group or the institutional group may count not more than nine semester hours of junior work on the degree, of which not more than three semester hours may be in the major.

A student majoring in any other group will be expected to choose as much of the work, in addition to the thesis, at the senior and graduate level as is consistent with a good graduate program. In order to count any junior courses on the master's degree with a major in one of these groups, the student must have the approval of both the Chairman of the Department of Home Economics and the Dean of the Graduate School prior to or at the time of registration.

Required routine, including application for degree.—Same as for the degree of Master of Arts (p. 32).

THE DEGREE OF MASTER OF ARCHITECTURE

Prerequisite.¹³—A degree of Bachelor of Architecture from The University of Texas, or a bachelor's degree in architecture from elsewhere representing an equivalent training, is prerequisite to the degree of Master of Architecture.

Requirements.—For the degree of Master of Architecture the equivalent of thirty semester hours of advanced courses completed with a grade of *A* or *B* is required. The proposed course of study must be approved by the Dean.

Eighteen semester hours, including a thesis, constitute the major and must be done in the Department of Architecture. At least six semester hours of the eighteen must be research, such time as the instructor in charge and the Dean may approve being devoted to the preparation of the thesis. The thesis must be approved by the instructor in charge, by the committee, and by the Dean.

Twelve semester hours constitute the minor, or minors, to be chosen from the following partial electives: Six to twelve semester hours of approved courses in other engineering departments; six to twelve semester hours in approved courses not in the College of Engineering.

A student may not receive graduate credit for more than six hours of junior courses, except with the special approval of the Department of Architecture in the case of students registering for not less than eighteen hours of graduate courses. Junior courses must be approved for each individual case by the major department.

¹³This prerequisite has been changed. See p. 46 for the new prerequisite.

Required routine, including application for degree.—Same as for the degree of Master of Arts (p. 32).

THE DEGREE OF MASTER OF SCIENCE IN ENGINEERING

Prerequisite.¹⁴—A degree of Bachelor of Science in Engineering from The University of Texas, or a Bachelor of Science in Engineering degree from another school representing equivalent training, is prerequisite to the degree of Master of Science in Engineering. In general, the bachelor's degree must be in that branch of engineering selected as the major for graduate study; exception may be made when the degree offered is in a related field and represents training equivalent to that required for the bachelor's degree specified.

For the degree of Master of Science in Communication Engineering the candidate must present as prerequisite the degree of Bachelor of Science in Electrical Engineering from The University of Texas, or the degree of Bachelor of Science in Electrical Engineering from another school representing equivalent training. In either case the equivalent of the following courses must have been included: Electrical Engineering 75, 376, Physics 338, and six semester hours of advanced mathematics selected from Applied Mathematics 22, 62, 64.

For the Master of Science in Sanitary Engineering degree a standing graduate committee on sanitary engineering of the Graduate School, composed of one graduate professor from Botany and Bacteriology and one each from Chemical, Civil, and Mechanical Engineering, shall recommend to the Dean of the Graduate School the major and minor courses and the necessary prerequisites of any candidate. Essential prerequisite courses in chemistry, bacteriology, thermodynamics, structural design, and surveying will be required of all candidates for this degree as a foundation for graduate study in water supply, sewage disposal, food preservation and sterilization, structural design, and air conditioning.

Branches of engineering in which master's degrees are offered.—The degree of Master of Science in Engineering, with designation of the major branch in which it is given, is offered in the following fields of work: Aeronautical engineering, architectural engineering, chemical engineering, civil engineering, communication engineering, electrical engineering, mechanical engineering, petroleum engineering, and sanitary engineering.

Candidacy requirements.—A student desiring to become a candidate for the master's degree in any branch of engineering must make application to the Dean of the Graduate School not later than the beginning of the semester prior to the one in which he desires to receive this degree. He will be recognized as a candidate when he has satisfied the scholarship requirements given below and when his application and course of study have been approved by the Dean of the College of Engineering and the Dean of the Graduate School. Only those students who show promise of capacity to do work of the

¹⁴The first paragraph of this prerequisite has been changed. See p. 47 for the new paragraph.

high standard set for graduate credit will be admitted as candidates for the master's degree. The department has the right to inquire as to the applicant's undergraduate record and to examine him on the prerequisites for the major subject, and may require him to make up deficiencies in his undergraduate preparation before his application is approved. This examination may be either oral or written, at the discretion of the department.

Course requirements.¹⁵— For the degree of Master of Science in Aeronautical Engineering, forty-five semester hours of advanced and graduate courses, completed with a grade of *A* or *B*, are required. Thirty semester hours of this work, in addition to the thesis, must be in the major subject.

For the degree of Master of Science in Communication Engineering, forty-five semester hours of advanced and graduate courses, completed with a grade of *A* or *B*, are required. The required courses are: Electrical Engineering 381, 83, 392, 393, 496; Physics 362, 363, 384, 388, 391; and the thesis (Electrical Engineering 98 or Physics 98). The approved electives are: Applied Mathematics 22, 62, 64; Electrical Engineering 387, 89, 391, 393, 95; Physics 380, 382.

For the degree of Master of Science in the other branches of engineering, thirty semester hours of advanced and graduate courses, completed with a grade of *A* or *B*, are required. At least one-half of this work, fifteen semester hours, including a thesis, but not more than four-fifths, twenty-four semester hours, constitutes the major and must be done in one department of the College of Engineering. The remaining one-half, fifteen semester hours, to one-fifth, six semester hours, depending upon the amount necessary to make up the total number of hours required, constitutes the minor, or minors, and must be selected outside the department in which the major is to be done but may be within the College of Engineering. Included in the major and minors must be at least eighteen semester hours in engineering. The courses must be logically related and the whole selection must be approved by the Dean of the College of Engineering and the Dean of the Graduate School.

A student may not receive graduate credit for more than six semester hours of junior courses, except with the special approval of his major department in the case of a student registering for not less than eighteen hours of graduate courses. Junior courses must be approved for each individual case by the department in which the student is registered for his major.

The thesis is under the direction of a supervisory committee appointed by the Dean of the Graduate School at the request of the student not less than six months prior to the date on which the advanced degree is to be conferred. Such time as this committee and the Dean of the Graduate School may approve, but at least six semester hours, must be devoted to the preparation of the

¹⁵This section has been changed by deleting the first paragraph and all but the first sentence of the second paragraph, so that the section now begins: "Course requirements.—For the degree of Master of Science in Communication Engineering, forty-five semester hours of advanced and graduate courses, completed with a grade of *A* or *B*, are required," and continues with the third paragraph of the section.

thesis. No student will be permitted to receive credit for a thesis done wholly without the supervision of his committee. This thesis must be approved by the supervisory committee and by the Dean of the Graduate School.

Maximum amount of work.—Graduate study should be conducted under conditions permitting ample time for investigation and reflection. In general, it is desirable for the full-time graduate student in engineering to register for not more than fifteen semester hours of work per semester. The maximum amount of work for which the student will be permitted to register is that which, when combined with his outside work, if any, will give the equivalent of eighteen semester hours per semester. Usually, in evaluating total work, outside work will count on the basis of three work hours per week being equivalent to one semester hour.

Required routine, including application for degree.—A graduate student in engineering desiring to become a candidate for a degree should confer with the professor in the field of his concentration and with the Dean of the College of Engineering before or at the time of his registration, in order to secure approval of his candidacy and to arrange a tentative program of work. Applicants for the Master of Science in Sanitary Engineering degree will confer with the standing committee on sanitary engineering.

Each applicant for the degree must present to the Dean of the Graduate School (1) a diploma card when he registers in the semester or term in which he expects to get his degree; (2) a certification by the Dean of the College of Engineering of the proposed course of study; (3) a thesis information card as soon as the field of the thesis and the supervising professor have been chosen, at least six months prior to the filing of the final thesis, at which time the supervisory committee will be appointed; (4) an application for the degree, with the title of his proposed thesis, approved by the chairman of the committee which is directing the thesis, at least one month before the degree is to be conferred; (5) three typewritten copies of the thesis, unbound, after approval by the committee and the Dean of the Graduate School, not later than noon of the last working day before the beginning of final examinations in the semester or term in which the degree is to be conferred. The thesis must be ready for the examining committee ten days prior to the final date. One copy of the thesis is to be placed in the Engineering Library.

REVISIONS IN PREREQUISITES

Master of Architecture

The following paragraph takes the place of the first paragraph under "The Degree of Master of Architecture," page 43.

Prerequisite.—A degree of Bachelor of Architecture from The University of Texas or the equivalent is prerequisite to the degree of Master of Architecture. A degree of Bachelor of Architecture or of Bachelor of Science in Architecture from a school accredited by the National Architecture Accrediting Board will be accepted as the equivalent of the degree here. If the

bachelor's degree offered is not from an accredited curriculum, the Committee on Graduate Degrees of the College of Engineering may recommend required additional courses to count only as undergraduate credit. This recommendation will be sent for approval to the Dean of the College of Engineering and to the Dean of the Graduate School.

Master of Science in Engineering

The following paragraph takes the place of the first paragraph under "The Degree of Master of Science in Engineering," page 44.

Prerequisite.—A degree of Bachelor of Science in Engineering from The University of Texas or the equivalent is prerequisite to the degree of Master of Science in Engineering. Any degree from a curriculum approved by the Engineers' Council for Professional Development by the time of graduation will be accepted as the equivalent of the corresponding curriculum here. In general, the bachelor's degree must be in that branch of engineering selected as the major for graduate study. If the undergraduate degree offered is not from an approved curriculum or if the major field is to be changed, the Committee on Graduate Degrees of the College of Engineering may recommend required additional courses to count only as undergraduate credit. This recommendation will be sent for approval to the Dean of the College of Engineering and to the Dean of the Graduate School.

REVISION IN REQUIREMENTS

Master of Education

The following section takes the place of the section on requirements under "The Degree of Master of Education," page 37.

Requirements.—The requirements for the degree of Master of Education are as follows:

- (1) The student's proposed course of study must be approved by the chairman of the department of his major interest and the Dean of the Graduate School. It must include thirty semester hours of courses accepted for graduate credit, each course completed with a grade of *A* or *B*. Registration in these courses should be approved in advance by the chairman of the major department and the Dean of the Graduate School. Eighteen semester hours, including a thesis, must be taken in the College of Education. The remaining twelve semester hours must be taken in subjects outside the College of Education, except that a student specializing in educational administration, educational supervision, school psychological services, or physical and health education may do all of his work in the College of Education if in the judgment of the chairman of his major department and the Dean of the Graduate School his preparation includes a sufficient number of supporting courses outside the College of Education. Twelve semester hours must be taken outside the major department. The course of study of each such student shall

conform to a program prescribed by the department and approved by the Dean of the Graduate School, and filed for reference with both the departmental chairman and the Dean of the Graduate School.

(2) A thesis, approved by the committee appointed for the purpose and by the Dean of the Graduate School. The thesis may be credited up to six semester hours in the major department.

(3) Three semester hours in the philosophy of education, unless a satisfactory equivalent has been completed on the undergraduate level. This requirement must be placed in the field of the minors, except in the case of students minoring outside the field of education.

(4) A student may count not more than nine semester hours of junior work on this degree, of which not more than three semester hours may be in the major.

COURSES OF INSTRUCTION

The following statement includes, in general, both the courses given in 1941-1942, 1942-1943, 1943-1944, and 1944-1945 and, as far as may be foreseen, those that will be given in 1945-1946 and 1946-1947.

The Final Announcement of Courses is issued in September of each year and contains any changes that may be necessary in the present statement. In registering, the Final Announcement of Courses should always be used.

For explanation of course numbers and letters see the Table of Contents of the General Information bulletin. In brief, the first digit of a three-digit course number indicates the value of the course in semester hours; but when the value is six semester hours, this digit is omitted. In the first case the two digits on the right indicate the rank of the course and in the latter case the whole course number; if between 0 and 9 the course is of freshman rank; if between 10 and 19, of sophomore rank; if between 20 and 59, of junior rank; if between 60 and 79, of senior rank; if between 80 and 99, of graduate rank. The lower-case letter *a* following a course number means the first half of the course; the letter *b*, the last half. The letter *i* following the letter *a* or *b* means that that part of the course may be counted independently without taking the other part.

The faculty lists at the beginning of each department cover the sessions of 1941-1942, 1942-1943, 1943-1944, and 1944-1945, and through the March 1 appointments of the 1945-1946 session. The sessions of 1941-1942 and 1942-1943 were composed of the first and second semesters; the sessions of 1943-1944, 1944-1945 and 1945-1946 included the Fall Term, the Winter Semester, and the Spring Semester.

COLLEGE OF ARTS AND SCIENCES

DEPARTMENT OF ANTHROPOLOGY

George Charles Marius Engerrand, Ph.D., *Professor of Anthropology*.

J. Gilbert McAllister, Ph.D., *Professor of Anthropology; Director of Research in Anthropology*.¹

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34.

¹Appointment changed from *Associate Professor* to *Professor*, effective September 1, 1944.

Specific prerequisites and requirements.—For the Master of Arts degree with major in anthropology, the candidate should have a general knowledge of the major fields of interest. To that end it is desirable that students have the following courses or their equivalent: Anthropology 332, 340, 356, 363, 375, 376, and 377. In lieu of these courses, and at the discretion of the Department, a general examination may be given or the candidate may be asked to read and report on a select list of books.

In addition to the thesis, each student majoring in the Department of Anthropology will be expected to choose as much of his work at the senior and graduate level as is consistent with a good graduate program. In order to count a junior course on the master's degree, the student must have the approval of both the Chairman of the Department and the Dean of the Graduate School prior to or at the time of registration.

Junior Courses

320. *Ethnology of Polynesia.*—Problems of migration, settlement, physical type, language, and culture of Polynesia. Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. Mr. McAllister. (Not given in 1942-1943.)

322. *Indians of the Plains.*—Language and culture of the Indians of the plains; application of the "culture area" concept; culture and its relationship to environment; ethnology and historical contact. Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. Mr. McAllister. (Not given in 1941-1942 or 1943-1944.)

323. *Indians of Texas.*—Ethnographic consideration of the Indians of Texas. Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. (Not given in 1941-1942 or 1943-1944.)

324. *Cultures of the Plateau Area.*—An ethnographic consideration of the Plateau: the linguistic, archaeological, and physical anthropological aspects; the complex cultural relationships; the mechanics of culture diffusion. Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. (Not given in 1943-1944 or 1944-1945.)

325. *Peoples and Cultures of the American Southwest.*—Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. (Not given in 1943-1944 or 1944-1945.)

329. *Cultures and Peoples of Mexico.*—Anthropology 329 and 374 may not both be counted. Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. Mr. Engerrand.

332. *Races, Peoples, and Languages of Europe*.—Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. Mr. Engerrand. (Not given in 1942-1943.)

334. *Races, Peoples, and Languages of Asia*.—Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. Mr. Engerrand. (Not given in 1942-1943 or 1944-1945.)

335. *Primitive Religion*.—Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. (Not given in 1943-1944.)

36a.i. *Races, Peoples, and Languages of Africa and Oceania*.—Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. Mr. Engerrand. (Not given in 1941-1942 or 1943-1944.)

36b.i. *Races, Peoples, and Languages of North America*.—Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. Mr. Engerrand. (Not given in 1941-1942 or 1943-1944.)

339. *Races, Peoples, and Languages of South America*.—Pre-Columbian and modern South American cultural areas (to include Costa Rica and the West Indies): physical types and languages; ethnic origins of the modern South American nations. Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. Mr. Engerrand. (Not given in 1941-1942.)

340. *Archaeology of America North of Mexico*.—Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science. Three lectures a week for one semester. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

355. *Economics of Simpler Societies*.—Production, distribution, and consumption in cultures other than the great civilizations. Prerequisite: Anthropology 310 and 311; or Anthropology 301 and 302, and six additional hours in any sophomore social science or six hours of economics or sociology or three hours of economics and three hours of sociology. Three lectures a week for one semester. (Given for the first time in the Summer Term, 1944; not given in 1944-1945.)

Senior and Graduate Courses

62. *Field Archaeology*.—Methods and techniques of archaeological excavations. Mapping, excavations, and preparation of a report of archaeological

sites. Given by the camp method during the summer. Lectures and field work. Prerequisite: Anthropology 340 or its equivalent, and consent of instructor. Transportation fee, \$6.

363. *Introduction to Linguistics*.—A consideration of the fundamental problems of language based upon anthropological data: the basic structure of languages; linguistic change; historical relationships. Prerequisite: Six hours of advanced anthropology. Three lectures a week for one semester. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

375. *The Stone Age in the Old World*.—Anthropology 375 and 342 may not both be counted. Study of man before history in the Old World; stratigraphy and paleontology of the Quaternary; cultural sequences; leading finds of fossil man; geographic distribution of prehistoric cultures. Prerequisite: Six hours of advanced anthropology. Three lectures a week for one semester. Mr. Engerrand. (Not given in 1942-1943 or 1944-1945.)

376. *Early Social Organization*.—Anthropology 376 and 321 may not both be counted. Prerequisite: Six hours of advanced anthropology. Three lectures a week for one semester. Mr. McAllister. (Not given in 1942-1943 or 1944-1945.)

377. *Method and Theory in Cultural Anthropology*.—Survey of various schools, concepts, methods, techniques in cultural anthropology. Prerequisite: Six hours of advanced anthropology. Three lectures a week for one semester. Mr. McAllister. (Not given in 1941-1942 or 1943-1944.)

80. *Seminar: North American Archaeology*.—Prerequisite: Anthropology 340 and nine additional hours of advanced anthropology; graduate standing or consent of instructor. The equivalent of three lectures a week for two semesters. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

83. *Seminar*.—Discussion and consideration of a selected anthropological problem. Prerequisite: Twelve hours of advanced anthropology; graduate standing or consent of instructor. The equivalent of three lectures a week for two semesters. Mr. McAllister. (Not given in 1941-1942, 1942-1943, or 1944-1945.)

84. *Seminar*.—Review and discussion of recent anthropological literature. Prerequisite: Twelve hours of advanced anthropology; graduate standing or consent of instructor. Ability to read at least one foreign language is desirable. The equivalent of three lectures a week for two semesters. Mr. Engerrand. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

98. *Thesis Course for the Master's Degree*.—It is desirable that the student have the following courses or their equivalent for the Master's degree with major in anthropology: Anthropology 329, 332, 335, 340, 363, 375, 376, 377. In lieu of these courses, and at the discretion of the Department, a general examination may be given. Prerequisite: Graduate standing in anthropology. Mr. Engerrand, Mr. McAllister.

DEPARTMENT OF APPLIED MATHEMATICS AND ASTRONOMY

John William Calhoun, M.A., LL.D., *Professor of Applied Mathematics and Astronomy.*²

Albert Everett Cooper, Ph.D., E.E., *Professor of Applied Mathematics and Astronomy.*

Homer Vincent Craig, Ph.D., *Professor of Applied Mathematics and Astronomy.*³

William Conyers Herring, Ph.D., *Professor of Applied Mathematics and Astronomy.*⁴

Edwin Warren Titt, Ph.D., *Associate Professor of Applied Mathematics and Astronomy.*

Ray Nelson Haskell, Ph.D., *Associate Professor of Applied Mathematics and Astronomy.*⁵

Nathaniel Coburn, Ph.D., *Assistant Professor of Applied Mathematics and Astronomy.*⁶

Ervin Joseph Prouse, Ph.D., *Assistant Professor of Applied Mathematics and Astronomy.*⁷

Robert Ewing Greenwood, Jr., Ph.D., *Instructor in Applied Mathematics and Astronomy.*⁸

Hyman Joseph Ettlinger, Ph.D., *Professor of Pure Mathematics; Research Mathematician, Defense Research Laboratory.*⁹

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree, see pages 31 to 34. For the Doctor of Philosophy degree, see pages 25 to 28.

Specific prerequisites and requirements.—A student majoring in applied mathematics for the master's degree may not count any junior courses

²Modified service.

³Absent on leave for the first semester of 1941-1942; appointment changed from *Associate Professor* to *Professor*, effective September 15, 1942.

⁴Appointment effective March 1, 1946.

⁵Absent on leave from May 8, 1943, to September 1, 1943; military service; appointment changed from *Assistant Professor* to *Associate Professor*, effective November 1, 1943.

⁶Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1943; absent on leave from November 7, 1944, through June 30, 1945.

⁷Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1945; absent on leave for the Fall Term of 1945-1946.

⁸Absent on leave for 1942-1943; absent on leave, effective September 1, 1943, military service.

⁹Appointment as *Research Mathematician* effective September 10, 1945.

in the major, but he may count as many as six semester hours of junior work in the minor.

Research in applied mathematics necessarily requires a broad and thorough training in mathematics. Consequently, candidates for the Degree of Doctor of Philosophy must give evidence of a fairly extensive knowledge of the major subdivisions of mathematics. Accordingly, before making application for candidacy, the student should have completed at least forty-five semester hours of work beyond the bachelor's degree in courses of senior or graduate rank. These courses, together with the applicant's advanced undergraduate work, must be so distributed as to include material from at least five of the following fields: algebra and theory of numbers, analysis, astronomy, geometry, mathematical physics, statistics and probability. The choice of material from these fields, together with the courses submitted in the minor field, should be so integrated as to equip the student for research in some field of applied mathematics.

After the required forty-five semester hours have been completed, the student should inform his instructors of the work that he wishes to present in their fields and make arrangements for separate oral examinations and consultations under each of these instructors. The instructors will advise him with regard to his preparation for the qualifying examination. This examination will be conducted by the Department.

APPLIED MATHEMATICS

Junior Courses

22. *Differential Equations and Applications*.—Same as Pure Mathematics 22. Counts in the same manner as Pure Mathematics 22. Prerequisite: Applied Mathematics 13. Three lectures a week for two semesters. Mr. Ettlinger.

325. *Advanced Calculus*.—Prerequisite: Applied Mathematics 13. Three lectures a week for one semester.

[325Q. *Advanced Calculus*.—For chemical and petroleum engineering students only. Prerequisite: Applied Mathematics 13. Three lectures a week for one semester. Mr. Coburn. (Not given after 1941-1942.)]

326. *Differential Equations*.—Prerequisite: Applied Mathematics 13. Three lectures a week for one semester.

[326Q. *Differential Equations*.—For chemical and petroleum engineering students only. Prerequisite: Applied Mathematics 13. Three lectures a week for one semester. Mr. Coburn. (Not given after 1941-1942.)]

28. *Dynamic Meteorology*.—Application of the laws of thermodynamics and hydrodynamics to the study of the atmosphere and its motions with regard to applications to weather forecasting. Prerequisite: Applied Mathematics 13. Three lectures a week for two semesters. Mr. Coburn. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

Senior and Graduate Courses

361. *Theory of Functions of a Complex Variable.*—Prerequisite: Applied Mathematics 325 and 326, or the equivalent. Three lectures a week for one semester. Mr. Cooper.

62. *Potential Theory.*—Prerequisite: Pure Mathematics 21 or 22, or Applied Mathematics 325 and 326. Three lectures a week for two semesters. Mr. Haskell, Mr. Greenwood.

64. *Vector and Tensor Analysis.*—Prerequisite: Applied Mathematics 325 and 326, or Pure Mathematics 21 or 22. Three lectures a week for two semesters. Mr. Craig. (Not given in 1941–1942.)

65. *Advanced Applied Mathematics.*—Prerequisite: Applied Mathematics 325 and 326. Three lectures a week for two semesters. Mr. Titt.

69. *Mathematical Analysis for Advanced Physical Chemistry.*—Prerequisite: Applied Mathematics 22, or 325 and 326. Three lectures a week for two semesters. Mr. Haskell, Mr. Coburn, Mr. Prouse. (Not given in 1942–1943.)

70. *Fluid Dynamics.*—For engineers only. (1) Perfect fluids; conformal mapping, Schwarz-Christoffel transformation, Kutta-Joukowsky profiles, vortex motion; (2) viscous fluids; boundary layers, the Karman trail; (3) dimensional analysis. Prerequisite: Applied Mathematics 325 and 326, or Applied or Pure Mathematics 22. Three lectures a week for two semesters. Mr. Coburn. (Given for the first time in 1943–1944; not given in 1944–1945.)

371. *Vibration Problems.*—Same as Civil Engineering 374. Fundamental principles of vibration theory and their application to technical problems. Free, damped, and forced vibrations; vibration measuring instruments; dampers and absorbers; vibration isolation. Vibration of strings, shafts, and beams; critical speeds. Prerequisite: Applied Mathematics 326. Three lectures a week for one semester. (Given for the first time in 1942–1943.)

380. *Dynamics.*—Prerequisite: Twelve hours of advanced mathematics, including Applied Mathematics 325 and 326; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Haskell. (Not given in 1941–1942.)

81. *Applications of Tensor Analysis.*—Prerequisite: Applied Mathematics 64; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Craig. (Not given in 1941–1942, 1942–1943, or 1943–1944.)

83. *Integrating Factor Methods in Linear Partial Differential Equations.*—Waves (both interior and exterior formulae) and heat flow in two- and three-space dimensions; Laplace's equation in three dimensions; computation of boundary values. Prerequisite: Applied Mathematics 65. Three lectures a week for two semesters. Mr. Titt. (To be offered for the first time in 1945–1946.)

387. *Group Theory of Differential Equations.*—Prerequisite: Graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Cooper. (Not given in 1942-1943 or 1943-1944.)

92. *Partial Differential Equations.*—Same as Pure Mathematics 92. Prerequisite: Applied Mathematics 22; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Ettlinger. (Not given in 1941-1942 or 1942-1943.)

98. *Thesis Course for the Master's Degree.*—Prerequisite: Graduate standing in applied mathematics. Mr. Cooper, Mr. Craig, Mr. Titt, Mr. Coburn.

99. *Thesis Course for the Degree of Doctor of Philosophy.*—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Calhoun, Mr. Cooper, Mr. Craig.

ASTRONOMY

Junior Courses

20. *Practical Astronomy.*—Lectures with practical work at the observatory with sextant, transit telescope, and equatorial telescope. Two lectures and three laboratory hours a week for two semesters. Prerequisite: Applied Mathematics 13a or equivalent, and junior standing. Mr. Prouse. (To be offered for the first time in 1945-1946.)

Physics 343. Astrophysics.—See Department of Physics. Mr. Kuehne.

Senior Courses

360. *Celestial Mechanics.*—Prerequisite: Applied Mathematics 325 and 326. Three lectures a week for one semester. Mr. Prouse. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

363. *Periodic Orbits.*—Prerequisite: Applied Mathematics 22. Three lectures a week for one semester. Mr. Prouse. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

DEPARTMENT OF BOTANY AND BACTERIOLOGY

Isaac McKinney Lewis, Ph.D., *Professor of Botany and Bacteriology.*¹⁰
Frederick McAllister, Ph.D., *Professor of Botany.*¹¹

Glenn Warren Goldsmith, Ph.D., *Professor of Botany; Director, Cotton Investigation and Research.*¹²

Benjamin Carroll Tharp, Ph.D., *Professor of Botany; Director of the Herbarium.*¹³

¹⁰Died March 12, 1943.

¹¹Modified service, effective September 1, 1945.

¹²Died October 29, 1943.

¹³Appointment as *Director of the Herbarium* effective September 15, 1942.

Oscar Brown Williams, Ph.D., *Professor of Bacteriology.*

Vernon Truett Schuhardt, Ph.D., *Professor of Bacteriology; Director, Brucellosis Research.*¹⁴

Marie Betzner Morrow, Ph.D., *Associate Professor of Botany.*¹⁵

Orville Wyss, Ph.D., *Associate Professor of Bacteriology.*¹⁶

Jackson Walter Foster, Ph.D., *Associate Professor of Bacteriology.*¹⁷

Fred A. Barkley, Ph.D., *Assistant Professor of Botany; Curator of the Herbarium.*¹⁸

Arthur Russell Colmer, Ph.D., *Instructor in Bacteriology.*¹⁹

Ruth Anna Christie Foster, Ph.D., *Instructor in Bacteriology.*²⁰

Paul Willging Barker, M.D., M.A., *Lecturer in Bacteriology.*²¹

Elmer Julius Lund, Ph.D., Sc.D., *Professor of Physiology; Director of the Institute of Marine Science.*

Robert Edward Hungate, Ph.D., *Associate Professor of Zoology; Research Biologist, Biochemical Institute.*²²

Facilities for Graduate Study

The department is prepared to offer work leading to the degree of Master of Arts and to the degree of Doctor of Philosophy in either botany or bacteriology.

Suitable laboratories are available for work in various fields of botany and bacteriology. Available facilities include standard equipment, several state and federal laboratories available for inspection, and a library containing much of the American and foreign literature. Profitable connections are maintained between the Department and various research and industrial organizations. Reference collections comprise an extensive herbarium of the flowering

¹⁴Appointment changed from *Associate Professor* to *Professor*, effective September 15, 1942.

¹⁵Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

¹⁶Appointment effective September 1, 1945.

¹⁷Appointment effective March 1, 1946.

¹⁸Appointment effective September 1, 1943; absent on leave from February 1, 1945, through June 30, 1945, and for the Fall Term of 1945-1946. Appointment changed from *Instructor in Botany; Assistant in the Herbarium* to *Assistant Professor of Botany; Curator of the Herbarium*, effective September 1, 1945.

¹⁹Appointment for 1943-1944 and 1944-1945.

²⁰Appointment for 1943-1944, 1944-1945, and 1945-1946.

²¹Appointment effective September 16, 1944; resignation effective October 31, 1945.

²²Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1943; appointment also as *Research Biologist* for 1943-1944 and 1944-1945; resignation effective September 1, 1945.

plants, cryptogams, fungi, and collections of living bacteria and fungi. The climate of this section of the country permits field work throughout the year, and the region offers great diversity of conditions of marine, fresh water, and land habitats. Opportunities for research are exceptionally favorable, since the region is typical of the gulf coast and southwest regions, which have not received the intensive study devoted to many districts.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—An adequate foundation for majoring in botany is represented by Botany 1, 11, 28, and 66, or their equivalent; for majoring in bacteriology, adequate preparation in chemistry as well as bacteriology is essential. Prospective students should consult with the Department concerning the graduate program.

A student majoring in the Department of Botany and Bacteriology for the master's degree may not count any junior courses in the major, but he may count as many as six semester hours of junior work in the minor.

The ability to read French and German is necessary for satisfactory work in most lines of investigation, and the study of these languages should be begun as early as possible.

A student majoring in botany for the Doctor of Philosophy degree must include Botany 80, 82, 84, 87, 99, and 360, or equivalent graduate credit, subject to the discretion of the staff. The first minor may be taken in botany provided it is in some phase of the subject differing from the major field. For example, a student whose major work is in morphology and cytology may choose ecology, physiology, bacteriology, or pathology as the first minor. For the second minor, suitable work may be found in chemistry, geology, physics, or zoology.

Questions for the major examination will be chosen from the fields of morphology, cytology, embryology, physiology, pathology, taxonomy, ecology, and genetics.

BOTANY

Junior Courses

329. *Experimental Biology.*—Same as Zoology 329. Prerequisite: Twelve hours of botany or zoology. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Hungate. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

[837. *General Physiology.*—Same as Physiology 837. Prerequisite: Twelve hours of physiology, zoology, or botany, and six hours of chemistry or physics. Two lectures and six laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Lund, Mr. Goldsmith. (Given only as physiology after 1942-1943.)]

341. Advanced Taxonomy.—Not open for credit to students who have had Botany 11 or 311 in the Long Session. Botany 11 taken in the Summer Session is no duplication of Botany 341 and 342 in the Long Session. May be repeated for credit, with consent of instructor. Prerequisite: Junior standing and Botany 1, Geology 1, Zoology 1, Physiology 6, or Biology 1. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Tharp. (Not given in 1944-1945.)

342. Advanced Taxonomy.—May be repeated for credit, with consent of instructor. Prerequisite: Botany 341. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Tharp. (Not given in 1944-1945.)

Senior and Graduate Courses

360. Botany Seminar.—May be repeated for credit. Prerequisite: Six hours of advanced botany. The equivalent of one and one-half lecture hours a week for two semesters. (Prior to 1941-1942 given as a junior course, Botany 239; not given in 1943-1944 or 1944-1945.)

363. Agrostology.—Prerequisite: Botany 341. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Tharp. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

66a.i. Histology.—Prerequisite: Six hours of advanced botany or zoology. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. McAllister.

66b.i. Cytology.—Prerequisite: Six hours of advanced botany or zoology. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. McAllister.

73. Ecology.—Botany 73 and 23 may not both be counted. Prerequisite: Bacteriology 29 or Botany 837 or senior standing in geology; and Botany 11, or 341 and 342. Two lectures and three laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Tharp. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

80. Mycology and Plant Pathology.—Prerequisite: Twelve hours of advanced botany or bacteriology; graduate standing or consent of instructor. One lecture and six laboratory hours a week for two semesters. Laboratory fee, \$4. Miss Morrow.

82. Research Problems.—Prerequisite: Graduate standing in biology. Nine laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. McAllister, Mr. Tharp.

84. Morphology of the Cryptogams.—Prerequisite: Botany 66; graduate standing or consent of instructor. Two lectures and three laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. McAllister. (Not given in 1944-1945.)

87. *Morphology of Seed Plants*.—Prerequisite: Botany 66; graduate standing or consent of instructor. Two lectures and three laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. McAllister. (Not given in 1941-1942 or 1943-1944.)

88. *Thesis Course for the Master's Degree*.—Prerequisite: Graduate standing in botany. Mr. McAllister, Mr. Tharp, Miss Morrow, Mr. Barkley.

89. *Thesis Course for the Degree of Doctor of Philosophy*.—Prerequisite: Admission to candidacy for the doctor's degree. Mr. McAllister, Mr. Tharp.

BACTERIOLOGY

Junior Courses

29. *General Bacteriology*.—Prerequisite: Twelve hours in botany, chemistry, or zoology; or six hours in bacteriology; or six hours in a biological science, six hours in chemistry, and registration for a second course in chemistry. Two lectures and three laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Williams.

30. *Water Bacteriology*.—Prerequisite: Bacteriology 316 or 29a or senior standing in sanitary engineering. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Colmer.

340. *Bacteria in Relation to Disease*.—Prerequisite: Six hours of a biological science or three hours of laboratory bacteriology (Bacteriology 316 or 29a); junior standing. Three lectures a week for one semester. Mr. Schuhardt.

Senior and Graduate Courses

360. *Immunology*.—Prerequisite: Bacteriology 29 and organic chemistry (Chemistry 10, 21, or 821). One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Schuhardt.

361. *Public Health Bacteriology*.—Prerequisite: Bacteriology 29. One lecture and nine laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Schuhardt.

362. *Advanced Bacteriological Methods*.—Specialized physiological techniques used in bacteriology, with emphasis on those applicable to research work. Students will work individually on assigned projects. Prerequisite: Bacteriology 29 and Chemistry 10, 21, or 821. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Colmer. (Given for the first time in 1942-1943.)

65a.i, 65b.i. *Clinical Laboratory Diagnosis*.—Routine clinical laboratory tests will be studied with emphasis on the biological aspects of the phenomena observed in the various host-pathogen relationships. Prerequisite: Bacteriology 29 and twelve hours of chemistry. Two lectures and six laboratory hours a week for two semesters. Laboratory fee, \$2 each semester. Dr. Barker and Laboratory Staff of the Brackenridge Hospital. (Given for the first time in the Summer Term, 1943.)

76. *Advanced Bacteriology*.—Prerequisite: Bacteriology 29. One lecture and six laboratory hours a week for two semesters. Laboratory fee, \$4. Miss Foster.

281. *Seminar in Microbiology*.—May be repeated for credit. Assigned topics of current interest to bacteriologists. Prerequisite: Twelve hours of advanced bacteriology; graduate standing or consent of instructor. One lecture a week for two semesters. Mr. Williams. (Given for the first time in 1942-1943.)

383. *Advanced Serology*.—The immunobiologic principles; the nature, preparation, and standardization of diagnostic antigens; and the techniques and factors involved in the available serologic tests. Prerequisite: Bacteriology 360. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Schuhardt and staff of the Serological Division of the State Department of Health Laboratory. (Given for the first time in the Summer Term, 1943; not given in 1943-1944.)

85. *Microbiology of Foods*.—Prerequisite: Twelve hours of advanced bacteriology, or Bacteriology 29 and six hours of senior courses in home economics, including Home Economics 377; graduate standing. Nine laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Williams. (Given for the first time in 1941-1942.)

92. *Research Problems*.—Prerequisite: Twelve hours of advanced bacteriology and consent of instructor; or six hours of advanced bacteriology and graduate standing. Nine laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Williams, Mr. Schuhardt.

98. *Thesis Course for the Master's Degree*.—Prerequisite: Graduate standing in bacteriology. Mr. Williams, Mr. Schuhardt.

99. *Thesis Course for the Degree of Doctor of Philosophy*.—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Williams, Mr. Schuhardt.

DEPARTMENT OF CHEMISTRY

Henry Winston Harper, M.D., LL.D., *Professor of Chemistry; Dean Emeritus of the Graduate School*.²³

William August Felsing, Ph.D., *Professor of Chemistry; Research Chemist; Defense Research Laboratory*.²⁴

Henry Rudolf Henze, Ph.D., *Professor of Pharmaceutical Chemistry*.

Harry Louis Lochte, Ph.D., *Professor of Chemistry*.

Roger John Williams, Ph.D., Sc.D., *Professor of Chemistry; Director of the Biochemical Institute*.²⁵

Robert R. Williams, M.S., Sc.D., *Professor of Chemistry*.²⁶

²³Modified service; died August 28, 1943.

²⁴Absent on leave from March 4, 1943, through June 15, 1943, and for the Fall Term of 1943-1944; appointment as *Research Chemist* effective October 1, 1945.

²⁵Absent on leave for the Fall Term of 1945-1946.

²⁶Appointment effective December 1, 1945.

George Willard Watt, Ph.D., *Professor of Chemistry.*²⁷

Clyde Roland Johnson, Ph.D., *Associate Professor of Chemistry.*

Esmond Emerson Snell, Ph.D., *Associate Professor of Chemistry; Research Biochemist, Biochemical Institute.*²⁸

Robbin Colyer Anderson, Ph.D., *Associate Professor of Chemistry; Research Chemist, Defense Research Laboratory.*²⁹

Lewis Frederic Hatch, Ph.D., *Associate Professor of Chemistry; Research Chemist, Defense Research Laboratory.*³⁰

Clifford Symes Garner, Ph.D., *Assistant Professor of Chemistry.*³¹

Frederick Albert Matsen, Ph.D., *Assistant Professor of Chemistry.*³²

John Leo Abernethy, Ph.D., *Assistant Professor of Chemistry.*³³

Norman Hackerman, Ph.D., *Assistant Professor of Chemistry.*³⁴

William Shive, Ph.D., *Assistant Professor of Biochemistry; Research Chemist, Biochemical Institute.*³⁵

Maxwell Aaron Pollack, Ph.D., *Assistant Professor of Chemistry; Research Chemist, Biochemical Institute.*³⁶

Alexander Moffit, B.A., M.S. in L.S., *Librarian.*³⁷

Facilities for Graduate Study

Modern facilities have been provided for all types of investigations relating to organic, biological, physical, inorganic, and analytical chemistry. The equipment is adequate and up-to-date.

The departmental library, named the John William Mallet Library in honor of the University's first Professor of Chemistry, is housed in the Chemistry Building and is under the supervision of a librarian. It contains over twelve

²⁷Absent on leave from November 1, 1943, to September 1, 1945; appointment changed from *Associate Professor to Professor*, effective March 1, 1946.

²⁸Appointment changed from *Assistant Professor to Associate Professor*, effective September 1, 1944; resignation effective September 1, 1945.

²⁹Appointment changed from *Assistant Professor to Associate Professor*, effective September 1, 1945; appointment as *Research Chemist* for the Fall Term of 1945-1946.

³⁰Appointment changed from *Instructor to Assistant Professor*, effective February 1, 1942, and to *Associate Professor*, effective September 1, 1945; appointment as *Research Chemist* effective September 1, 1945.

³¹Absent on leave, effective April 25, 1942; resignation effective December 31, 1945.

³²Appointment effective September 15, 1942, as *Instructor*; appointment changed to *Assistant Professor*, effective April 1, 1943.

³³Appointment changed from *Instructor to Assistant Professor*, effective September 1, 1943; resignation effective June 30, 1945.

³⁴Appointment effective January 1, 1945.

³⁵Appointment as *Research Chemist, Biochemical Institute*, effective November 1, 1944; appointment changed to *Assistant Professor of Biochemistry*, effective November 1, 1945.

³⁶Resignation effective November 23, 1942.

³⁷Appointment changed from *Associate Librarian to Librarian*, effective June 16, 1945.

thousand volumes devoted to the various fields of pure and applied chemistry, including practically complete files of all the important chemical journals published in English, German, French, and Italian from 1789 to the present time, and all the more important handbooks, monographs, special treatises, encyclopedias, and dictionaries. The Main Library and the libraries of the departments of physics, botany, and zoology are also available.

The laboratory building for the Department of Chemistry accommodates all the various branches of the chemistry groups and affords facilities for the teaching of chemistry and for chemical research. The Department offers work leading to the Master of Arts degree in analytical, biological, inorganic, organic, and physical chemistry, and to the degree of Doctor of Philosophy in biochemistry and organic, physical, inorganic-physical and analytical-physical chemistry.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—The preliminary training of students wishing to major in chemistry for a graduate degree must include at least twenty-four semester hours in chemistry, including at least six semester hours each in general chemistry, quantitative analysis, organic chemistry, and physical chemistry; at least twelve of the twenty-four semester hours must be advanced. This requirement is satisfied by the following courses: Chemistry 801, 812, 821, 460, and 461, or their equivalents. It should be noted that chemical engineering may be taken as a minor to chemistry.

A student majoring in chemistry for the master's degree may not count any junior course on the major, but he may count as many as six semester hours of junior work on the minor.

For students majoring in chemistry for the Doctor of Philosophy degree, a reading knowledge of technical German and French or German and Russian is required. The examinations in these languages must be passed before starting the last two semesters of full-time work, or their equivalent, toward the Doctor of Philosophy degree.

Candidates majoring in chemistry for advanced degrees must, in order to give evidence of thorough training in general principles of chemistry, take qualifying examinations in general inorganic chemistry, physical chemistry, organic chemistry, and analytical chemistry (qualitative and quantitative) during their first year of graduate study. The dates for these examinations are set yearly by the departmental faculty. Successful passing of such examinations is a prerequisite for candidacy for the Doctor of Philosophy degree.

Normally, selection of a research problem should be deferred by a student until at least the second semester in residence. A student should take opportunity to consult with all staff members in his field of interest before making a selection, and should file with the Chairman of the Department, when

final decision has been reached, a statement declaring his intention to work for the doctor's degree under the supervision of a specific professor. In general, credit in the major for research (thesis or dissertation) should not exceed thirty-six hours in a program for the Doctor of Philosophy degree.

The equivalent of one full semester must usually be allowed for finishing the work for a doctoral dissertation. Therefore, all special written examinations in the major or minor fields, etc., should be completed before a candidate for the the Doctor of Philosophy Degree registers for the last fifteen semester hours of his graduate program.

Junior Courses

21. Elementary Organic Chemistry.—Only one of the following may be counted: Chemistry 310, 10, 314, 21. Prerequisite: Chemistry 801 or 801Q, and six additional hours of chemistry, not including Chemistry 10. Two lectures and three laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Henze, Mr. Williams, Mr. Hatch.

821. Organic Chemistry.—Only one of the following may be counted: Chemistry 310, 10, 314, 821. Prerequisite: Chemistry 812 or 12. Three lectures and four laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Lochte.

222, 322. Organic Preparations.—May be repeated for credit up to a maximum of six hours. Prerequisite: Chemistry 10, 21, or 821. Six or nine laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Henze.

333. Advanced Qualitative Analysis.—Prerequisite: Twelve hours of chemistry. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Matsen.

336. Advanced Quantitative Analysis.—Prerequisite: Chemistry 812 or 842. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Johnson. (Not given in 1941-1942 or 1942-1943.)

442. Quantitative Pharmaceutical Chemistry.—Only one of the following may be counted: Chemistry 812, 416, 442. Prerequisite: Chemistry 801 or 801Q, and Chemistry 10, 21, or 821. Two lectures and six laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Matsen. (Not given in 1943-1944.)

842. Quantitative Chemical Analysis and Its Theory.—Only one of the following may be counted: Chemistry 812, 416, 842. Primarily for premedical and other students who have credit for Chemistry 10. Prerequisite: Twelve hours of chemistry, not including quantitative analysis. Two lectures and six laboratory hours a week for two semesters, or four lectures and twelve laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Johnson.

252. Advanced Quantitative Pharmaceutical Chemistry.—Prerequisite: Chemistry 442. One lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Johnson. (Not given in 1943-1944.)

359. *Elementary Physical Chemistry*.—Chemistry 359 and 460 may not both be counted. Intended primarily for premedical students and biology majors. Prerequisite: Twelve hours of chemistry, six hours of physics, and Pure Mathematics 304 or Applied Mathematics 309. Three lectures a week for one semester. Mr. Garner, Mr. Matsen. (Not given in 1943-1944 or 1944-1945.)

Senior and Graduate Courses

460. *Physical Chemistry*.—Chemistry 460 and 359 may not both be counted. Prerequisite: Chemistry 812 and credit or registration for Chemistry 821 or 21, Applied or Pure Mathematics 13, and Physics 801. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Felsing.

461. *Physical Chemistry*.—Prerequisite: Chemistry 460. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Felsing.

362. *Chemistry of Medicinal Products*.—Prerequisite: Chemistry 10, 21, or 821, and consent of instructor. Three lectures a week for one semester. (Not given in 1941-1942.)

362K. *Advanced Organic Chemistry*.—A rapid survey of organic chemistry, with emphasis upon reactions useful for synthesis and proof of structure. Prerequisite: Chemistry 21 or 821; ninety hours of completed courses. Three lectures a week for one semester. Mr. Henze. (Given for the first time in 1941-1942.)

362W. *Chemical Warfare Agents*.—A “defense course” covering both individual and collective protection against chemical warfare agents; chemical and physical characteristics of such agents; method of use. Prerequisite: Chemistry 10, 21, or 821, and Physics 801. Three lectures a week for one semester. Mr. Henze. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

363K. *Polymerization Reactions and Their Industrial Applications*.—Prerequisite: Chemistry 10, 21, or 821, and 461. Three lectures a week for one semester. Mr. Pollack. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

364K. *Chemistry of Proteins*.—Prerequisite: Chemistry 812 and 821, or 10 and 842. Three lectures a week for one semester. Mr. Pollack. (Given for the first time in 1941-1942; beginning in 1942-1943, given as a graduate course, Chemistry 383K.)

365K. *Chemistry of Carbohydrates*.—Introduction to the chemistry of the monosaccharides (with special emphasis on glucose), the disaccharides, the trisaccharides, and oligosaccharides, cellulose and starch. Prerequisite: Chemistry 812 and 10, 21, or 821. Three lectures a week for one semester. Mr. Abernethy. (Given for the first time in 1942-1943; not given in 1944-1945.)

266K. Chemical Literature and Reference Work.—Survey of chemical journals and study of reference books in chemistry and allied fields. Prerequisite: Senior standing in chemistry. One lecture a week for two semesters. Mr. Moffit. (Given for the first time in 1943–1944.)

367. Chemical Kinetics.—Chemistry 461 or six hours of physical chemistry, and Applied or Pure Mathematics 13. Three lectures a week for one semester. Mr. Anderson.

367K. Chemistry of Aromatic Compounds.—Chemistry of the aromatic compounds (coal tar derivatives). Methods of preparation, reactions, and uses of these substances. Theory of substitution in the aromatic nucleus. Prerequisite: Chemistry 10, 21, or 821, and 812 or 842. Three lectures a week for one semester. Mr. Abernethy. (Given for the first time in 1944–1945.)

368. Principles of Colloid Chemistry.—Prerequisite: Chemistry 359 or 460. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Anderson, Mr. Hackerman.

369. General Biochemistry.—Consideration of cellular constituents. Prerequisite: Chemistry 821. Three lectures a week for one semester. Mr. Williams.

370. General Biochemistry.—Metabolism in plants and animals. Prerequisite: Chemistry 369. Three lectures a week for one semester. Mr. Williams.

372. Modern Structural Chemistry.—Prerequisite: Six hours of physical chemistry and six hours of calculus. Three lectures a week for one semester. Mr. Garner. (Not given in 1941–1942, 1942–1943, 1943–1944, or 1944–1945.)

372K. Physico-Organic Chemistry.—Interpretation of physical measurements on organic compounds; a study of valence, structure, and resonance, with particular reference to organic compounds. Prerequisite: Chemistry 461. Three lectures a week for one semester. Mr. Matsen. (Given for the first time in the Summer Term, 1943; not given in 1943–1944.)

374. Spot Methods of Qualitative Analysis.—Prerequisite: Chemistry 812 or 842, 333 or 336 or its equivalent, and 10, 21, or 821. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Johnson. (Not given in 1941–1942, 1943–1944, or 1944–1945.)

375. Theoretical Electrochemistry and Corrosion.—Electrolytic conductance; ionic equilibria; electrode phenomena. Theoretical aspects of electrolytic oxidation and reduction; electro-deposition; electrochemical corrosion. Prerequisite: Chemistry 461. Three lectures a week for one semester. Mr. Hackerman. (To be offered for the first time in the Summer-Fall Semester, 1945.)

376. Advanced Inorganic Chemistry.—Prerequisite: Chemistry 461 or six hours of physical chemistry. Three lectures a week for one semester. Mr. Watt. (Not given in 1943–1944 or 1944–1945.)

377. *Selected Topics in Inorganic Chemistry.*—May be repeated for credit. Prerequisite: Chemistry 376. Three lectures a week for one semester. Mr. Watt. (Not given in 1943-1944 or 1944-1945.)

378. *Industrial Chemistry of Petroleum Hydrocarbons.*—Prerequisite: Chemistry 812 and 21 (or 821), or 10 and 842. Three lectures a week for one semester. Mr. Hatch.

378K. *Theoretical Chemistry of Petroleum Derivatives.*—Primarily for chemists. Theoretical aspects of reactions converting petroleum hydrocarbons into useful derivatives. Prerequisite: Chemistry 812, and 21 or 821; or 10 and 842. Three lectures a week for one semester. Mr. Hatch. (Given for the first time in the Summer Term, 1943.)

[479. *History of Chemistry.*—Prerequisite: Six hours of advanced chemistry. Two lectures a week for two semesters. Dr. Harper. (Not given in 1943-1944 or 1944-1945; not to be given in 1945-1946 or 1946-1947.)]

[380K. *Mechanism of Organic Reactions.*—Prerequisite: Chemistry 10, 21, or 821, and Chemistry 461. Three lectures a week for one semester. Mr. Pollack. (Offered for the first time in 1942-1943 but has not yet been given; not to be given in 1945-1946 or 1946-1947.)]

81a.i. *Qualitative Organic Analysis.*—Prerequisite: Six hours of organic chemistry and six hours of physical chemistry; German A; graduate standing or consent of instructor. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Lochte.

81b.i. *Quantitative Organic Analysis.*—Prerequisite: Six hours of organic chemistry and six hours of physical chemistry; German A; graduate standing or consent of instructor. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Lochte.

82. *Advanced Physical Chemistry.*—Prerequisite: Six hours of organic chemistry and six hours of physical chemistry; German A; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Felsing.

383K. *Chemistry of Proteins.*—Prerequisite: Chemistry 812 and 821, or 10 and 842, and 461. Three lectures a week for one semester. Mr. Williams. (Given as a senior course, Chemistry 364K, in 1941-1942; not given in 1943-1944.)

384K. *Catalysis.*—Prerequisite: Twelve hours of advanced chemistry; unless Chemistry 367 is included, permission of instructor; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Anderson. (Given for the first time in the Summer-Fall Semester, 1944.)

385, 85. *Research.*—May be applied toward the major only by special permission of the candidate's supervisory committee. May be repeated for

credit. Laboratory fee: for 385, \$2; for 85, \$4. Research is offered in the following fields of chemistry:

(2) Organic chemistry. Prerequisite: Chemistry 81; German A; graduate standing or consent of instructor. Mr. Henze, Mr. Lochte, Mr. Williams, Mr. Hatch, Mr. Abernethy.

(3) Physical chemistry. Prerequisite or parallel: Chemistry 82; German A; graduate standing or consent of instructor. Mr. Felsing, Mr. Anderson, Mr. Garner, Mr. Matsen.

(4) Quantitative analytical chemistry. Prerequisite: Chemistry 461; German A; graduate standing or consent of instructor. Mr. Johnson, Mr. Matsen.

(5) Biochemistry. Prerequisite: Chemistry 821 and 460; German A; graduate standing or consent of instructor. Mr. Williams, Mr. Snell.

(6) Inorganic chemistry. Prerequisite: Chemistry 461 and 376; German A; consent of instructor. Mr. Watt.

85T. *Advanced Laboratory Techniques*.—May be repeated for credit. Laboratory fee, \$4.

(5) Biochemistry. Prerequisite: Chemistry 821 and 460; reading knowledge of German; graduate standing; consent of instructor. Mr. Williams.

(6) Inorganic chemistry. Prerequisite: Chemistry 461 and 376; reading knowledge of German; graduate standing; consent of instructor. Mr. Watt. (Given for the first time in the Summer Term, 1943.)

290. *Seminar in Chemistry*.—May be repeated for credit. Prerequisite: Chemistry 821 and 461; German A; graduate standing. The equivalent of one lecture a week for two semesters. (Not given in 1944–1945.)

391. *Selected Topics in Organic Chemistry*.—May be repeated for credit. Prerequisite: Six hours of organic chemistry and six hours of physical chemistry; German A; consent of instructor. Three lectures a week for one semester. Mr. Henze, Mr. Lochte. (Not given in 1941–1942.)

392. *Instrumental Methods of Analysis*.—Prerequisite: Chemistry 461 and graduate standing. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Johnson. (Given for the first time in 1941–1942; not given in 1943–1944.)

[394. *Chemistry of Enzyme Systems*.—Prerequisite: Chemistry 370; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Snell. (Given for the first time in 1941–1942; not given in 1943–1944; not to be given in 1945–1946 or 1946–1947.)]

[395. *Fermentation Biochemistry*.—May count as bacteriology. Prerequisite: Chemistry 370 and credit or registration for Bacteriology 29; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Snell. (Given for the first time in 1941–1942; not given in 1942–1943 or 1944–1945; not to be given in 1945–1946 or 1946–1947.)]

396. *Quantum Chemistry*.—Application of wave mechanics to the solution of chemical problems. Prerequisite: Chemistry 82 and three hours of mathematics beyond calculus, or eighteen hours of physics and three hours of mathematics beyond calculus; or graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Matsen. (Given for the first time in 1942-1943; not given in 1943-1944.)

396K. *Statistical Mechanics*.—Prerequisite: Chemistry 82 and six hours of mathematics beyond calculus; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Matsen. (Given for the first time in the Summer-Fall Semester, 1944.)

98. *Thesis Course for the Master's Degree*.—Prerequisite: Six hours of senior chemistry. Laboratory fee, \$4. Mr. Felsing, Mr. Henze, Mr. Lochte, Mr. Williams, Mr. Johnson, Mr. Watt, Mr. Snell, Mr. Anderson, Mr. Garner, Mr. Hatch, Mr. Matsen, Mr. Abernethy, Mr. Hackerman.

99. *Thesis Course for the Degree of Doctor of Philosophy*.—Prerequisite: Admission to candidacy for the doctor's degree. Laboratory fee, \$4. Mr. Felsing, Mr. Henze, Mr. Lochte, Mr. Williams, Mr. Watt.

DEPARTMENT OF CLASSICAL LANGUAGES

William James Battle, Ph.D., D.C.L., LL.D., *Professor of Classical Languages*.³⁸
Daniel Allen Penick, Ph.D., *Professor of Classical Languages; Tennis Coach*.³⁸
Oscar William Reinmuth, Ph.D., *Professor of Classical Languages*.³⁹
Harry Joshua Leon, Ph.D., *Professor of Classical Languages*.⁴⁰

Victor Ivan Moore, M.A., *Associate Professor of Classical Languages; Dean of Student Life; Dean of Men*.⁴¹

Mrs. Minnie Lee Barrett Shepard, M.A., *Assistant Professor of Classical Languages*.⁴²

Oscar Scofield Powers, Ph.D., *Instructor in Classical Languages*.⁴³

Facilities for Graduate Study

The department's facilities for graduate work lie primarily in books. Its collection of books includes texts of practically all Latin and Greek authors, most of the leading commentaries and special books, the important lexicons and dictionaries of various sorts, and complete sets of the most important

³⁸Modified service.

³⁹Absent on leave from September 23, 1943, to March 1, 1946; military service.

⁴⁰Appointment changed from *Associate Professor* to *Professor*, effective September 15, 1942.

⁴¹Died July 6, 1943.

⁴²Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1945.

⁴³Absent on leave from September 15, 1942, to March 1, 1946; military service.

journals and series, both American and foreign. The staff also offer their private libraries freely for student use. The Classical Library on the twenty-seventh floor of the Tower affords a convenient place for study.

Besides books, the department has a good supply of material illustrative of classical literature and art. The collections of casts and lantern slides in ancient art and Roman antiquities are exceptionally large and carefully selected.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—In addition to the general prerequisites, if Latin be the major, Latin 224 should have been completed.

Since the cultures of Greece and Rome are so closely related that neither can be properly understood without the other, it is urged that both be included in the undergraduate degree. If this has not been done, the student would do well to accompany his graduate study with undergraduate work in the language omitted. Especially is Greek of prime importance as an aid to a major in Latin.

A student majoring in the Department of Classical Languages for the master's degree may not count any junior courses in the major, but he may count as many as six semester hours of junior work in the minor.

For the Master of Arts degree the student is urged to present Greek along with a Latin major, Latin along with a major in Greek. Since the content of Greek 83 and Latin 83 is not the same in successive years, these courses may be taken and counted more than once.

For a degree of Doctor of Philosophy with the major in Greek or Latin, the other of these languages must be presented as a minor. The sequence of courses, the thesis requirement, and the special examinations are worked out with each candidate. Written examinations are required on one Greek and one Latin author and on a special field acceptable to the Department, and an oral examination is required, covering classical philology in general. The ability to read French and German is imperative and is tested by examination.

GREEK

Junior Courses

24. *Advanced Greek Reading.*—Selected orations of Lysias; Plato's *Apology*; Demosthenes' *Philippics*. Prerequisite: Greek 12. Three lectures a week for two semesters. Mr. Battle. (Not given in 1942-1943 or 1943-1944.)

28. *Second-Year New Testament Greek.*—*Acts of the Apostles* and Paul's *Epistles*; Burton's *Moods and Tenses*; critical exegesis. Prerequisite: Greek 12 or 19. Three lectures a week for two semesters. Mr. Penick.

Senior and Graduate Courses

61. *Advanced New Testament Greek.*—Extensive reading in the New Testament. Comparative study of Hellenistic and Attic Greek with special ref-

erence to the place of New Testament Greek. Prerequisite: Greek 24 or 28. Three lectures a week for two semesters. (Greek 61 and 62 are not given in the same year.) Mr. Penick. (Not given in 1942-1943 or 1944-1945.)

62. *Hellenistic Greek*.—Readings from the Septuagint, Christian Fathers, and Greek papyri. Comparison with New Testament Greek and Homeric and Attic Greek. Textual criticism. Prerequisite: Greek 24 or 28. Three lectures a week for two semesters. (Greek 61 and 62 are not given in the same year.) Mr. Penick. (Not given in 1941-1942 or 1943-1944.)

65. *Lyric and Dramatic Poetry*.—Selections from the lyric poets; Aeschylus' *Prometheus Bound*; *Oedipus Tyrannus*; Euripides' *Medea*; Aristophanes' *Acharnians*; Jevons' *History of Greek Literature*. Prerequisite: Greek 24. Three lectures a week for two semesters. Mr. Battle. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

83. *Conference Course*.—The authors studied vary. In 1943-1944, Aeschylus; in 1944-1945, Lucian. Prerequisite: Greek 65; graduate standing or consent of instructor. Mr. Battle.

98. *Thesis Course for the Master's Degree*.—Prerequisite: Graduate standing in Greek. Mr. Battle, Mr. Penick, Mr. Reinmuth, Mr. Leon.

99. *Thesis Course for the Degree of Doctor of Philosophy*.—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Battle, Mr. Penick, Mr. Reinmuth, Mr. Leon.

LATIN

Junior Courses

23. *Advanced Reading*.—Pliny, Martial, Horace. Reading on the private life of the Romans. Prerequisite: Six hours of sophomore Latin. Three lectures a week for two semesters. Mr. Leon. (Prior to 1943-1944 given as Latin 13.)

224. *Advanced Prose Composition*.—Recommended with Latin 23. Advanced principles of grammar applied to sentence and paragraph writing. Prerequisite: Six hours of sophomore Latin and 210. Two lectures a week for one semester. Mrs. Shepard. (Prior to 1943-1944 given as Latin 214.)

[25. *Junior Reading: Cicero's Letters, Livy, Juvenal*.—Prerequisite: Latin 13; Latin 214 is strongly advised. Three lectures a week for two semesters, Mr. Moore. (Given as Latin 65 after 1942-1943.)]

[226. *Junior Writing Course*.—Connected narrative. Prerequisite: Latin 214. Recommended with Latin 25 and 68. One lecture a week for two semesters. Mr. Leon. (Given as Latin 260 after 1942-1943.)]

[31. *Medieval Latin*.—Reading of selections from the chief writers of the Middle Ages. Prerequisite: Twelve hours of numbered courses in Latin. Three lectures a week for two semesters. (Given as Latin 81 after 1941-1942.)]

Senior and Graduate Courses

260. Senior Prose Composition.—Recommended with Latin 65 and 68. Connected writing in various styles. Original composition. Prerequisite: Latin 224. One lecture a week for two semesters. Mr. Leon. (Prior to 1943–1944 given as Latin 226.)

65. Senior Reading.—Livy; Roman satire. Prerequisite: Latin 23. Three lectures a week for two semesters. (Prior to 1943–1944 given as Latin 25.)

[*68. Senior Reading.*—Advanced prose and poetry. The authors vary. Prerequisite: Latin 25. Three lectures a week for two semesters. Mr. Leon. (Not given after 1942–1943.)]

81. Medieval Latin.—Survey of the Latin literature of the Middle Ages with readings from the major writers, legends, romances, drama, hymns, and lyrics; outside readings and reports on lives of authors, historical and social backgrounds. Prerequisite: Twelve hours of advanced courses in a foreign language or history or English, and an adequate reading knowledge of Latin; graduate standing and consent of instructor. Three lectures a week for two semesters. Mr. Leon. (Prior to 1942–1943 given as Latin 31; not given in 1943–1944 or 1944–1945.)

83. Conference Course.—The authors studied vary. In 1944–1945, Lucretius and Tacitus. Prerequisite: Latin 65 or 68; graduate standing or consent of instructor. Mr. Leon.

98. Thesis Course for the Master's Degree.—Prerequisite: Graduate standing in Latin. Mr. Battle, Mr. Penick, Mr. Reinmuth, Mr. Leon.

99. Thesis Course for the Degree of Doctor of Philosophy.—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Battle, Mr. Penick, Mr. Reinmuth, Mr. Leon.

CLASSICAL CIVILIZATION**Junior Courses**

30. Greek Civilization.—The significance to modern times of Greek culture in its main aspects. Lantern slides will be used when practicable. No knowledge of Greek is required. Will not count as foreign language credit. Prerequisite: Junior standing under Plan II for the B.A. degree or junior standing with a *B* average. Three lectures a week for two semesters. Mr. Powers. (Prior to 1941–1942 given as Greek 30; not given in 1942–1943, 1943–1944, or 1944–1945.)

35. Roman Civilization.—First semester: A survey of the institutions and monuments of ancient Rome. Second semester: A survey of the social life and customs of ancient Rome. Additional reading, papers, and conferences. No knowledge of Latin required. Will not count as foreign language credit. Prerequisite: Six hours of sophomore English or six hours of sophomore social science. Three lectures a week for two semesters. Mr. Leon. (Given for the first time in 1943–1944.)

349. *Greek Epic and Lyric Poetry in English Translations.*—Homer and Hesiod and the most important lyric poets. Prerequisite: Six hours of sophomore English. Three lectures a week for one semester. (Prior to 1941–1942 given as English 349; not given in 1943–1944 or 1944–1945.)

350. *Greek Dramatic Poetry in English Translation.*—The history of Greek dramatic poetry. The most important plays of Aeschylus, Sophocles, Euripides, and Aristophanes. Prerequisite: Six hours of sophomore English. Three lectures a week for one semester. (Prior to 1941–1942 given as English 350; not given in 1943–1944 or 1944–1945.)

CZECH

See Department of Slavonic Languages, page 169.

DEPARTMENT OF ECONOMICS

Edmund Thornton Miller, Ph.D., *Professor of Economics.*

George Ward Stocking, Ph.D., *Professor of Economics.⁴⁴*

Clarence Edwin Ayres, Ph.D., *Professor of Economics.*

Clarence Alton Wiley, Ph.D., *Professor of Economics.*

Edward Everett Hale, M.A., *Professor of Economics.*

Ruth Alice Allen, Ph.D., *Professor of Economics.*

Robert Hargrove Montgomery, Ph.D., *Professor of Economics.⁴⁵*

George Herbert Hildebrand, Jr., Ph.D., *Associate Professor of Economics.⁴⁶*

Abram Bergson, Ph.D., *Assistant Professor of Economics.⁴⁷*

Eastin Nelson, Ph.D., *Assistant Professor of Economics.⁴⁸*

Wendell Chaffee Gordon, Ph.D., *Assistant Professor of Economics.⁴⁹*

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—Economics 329 is required of all students majoring in economics for a graduate degree.

⁴⁴Absent on leave for 1941–1942, for the Fall Term and Spring Semester of 1944–1945, and for the Fall Term of 1945–1946.

⁴⁵Absent on leave from September 15, 1942, to November 1, 1945.

⁴⁶Appointment changed from *Instructor* to *Assistant Professor*, effective September 15, 1942; appointment changed to *Associate Professor*, effective September 1, 1945. Absent on leave from September 1, 1943, to October 31, 1945; resignation effective October 31, 1945.

⁴⁷Absent on leave, effective September 15, 1942.

⁴⁸Appointment effective September 1, 1943.

⁴⁹Appointed *Instructor* for 1941–1942; reappointed as *Assistant Professor*, effective March 1, 1946.

A student majoring in economics for the master's degree may count not more than nine semester hours of junior work on the degree, of which not more than three semester hours may be in the major.

In addition to the general requirements of The University of Texas for the degree of Doctor of Philosophy, each candidate for the degree will be expected to be prepared in the fields of economic theory, economic history, economic and social statistics, and in three fields of applied economics.

The first minor must be in a field of economics not included in the major, except that with the approval of the Department of Economics and the Dean of the Graduate School the first minor may be in the fields of business administration or sociology.

The second minor should be in another social science, but it may be outside the field of the social sciences, subject to the approval of the Department of Economics and the Dean of the Graduate School.

A general examination in economic theory, economic history of either the United States or Europe, economic and social statistics, three fields of applied economics, and the field of the second minor must be taken by the close of the year preceding the year in which the candidate expects to receive his degree. A full list of these fields, together with detailed instructions covering all the steps leading to the Doctor of Philosophy degree in economics, may be obtained from the Chairman of the Department and should be studied carefully by everyone who contemplates entering upon a course leading eventually to this degree.

Junior Courses

321. Public Finance.—A general treatment of governmental expenditures, revenues, debts, and financial administration. An account of the state and local systems in Texas parallels the general treatment. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Miller. (Not given in 1942-1943.)

22a.i. Money.—Principles of money; recent monetary theories; American monetary history. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Miller. (Not given in 1943-1944.)

22b.i. Banking.—Principles of banking; recent banking theories; American banking history. History and description of Texas state banking. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Miller. (Not given in 1943-1944.)

323. Economic History of the United States.—A survey of American economic development from colonial times to the present and an analysis of the factors which have shaped that development. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Hildebrand.

[*324. Labor Problems.*—A consideration of the position of labor in the United States; share of income; wages; woman and child labor; problems of organization. Prerequisite: Economics 313. Three lectures a week for one semester. Miss Allen. (Not given after 1942-1943.)]

325. *Trade Unionism*.—Consideration of the principles, policies, and methods of trade unionism, with special reference to its development in the United States. Prerequisite: Economics 313. Three lectures a week for one semester. Miss Allen. (Given for the first time in the Summer Session, 1942; not given in 1942-1943.)

327. *Comparative Economic Systems*.—The theories of capitalism, socialism, communism, and fascism; their forms of social organization and their economic policies and objectives. Prerequisite: Economics 313 or six hours of advanced government or philosophy. May count as philosophy if preceded by six hours of advanced philosophy. Three lectures a week for one semester. Mr. Hale.

328. *Organization and Control of Industry*.—Economics 328 and 363 may not both be counted. Forces making for the decline of competition and the concentration of economic control; manner in which an economy of imperfect competition functions; the problem of public regulation. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Stocking.

329. *Economic and Social Statistics*.—Designed to aid the student in methods of analysis and interpretation of quantitative data in the field of economics. Required of students majoring in economics for the Master's degree. Prerequisite: Economics 313. Four hours of lectures and supervised work a week for one semester. Laboratory fee, \$2. Mr. Wiley.

331. *Agricultural Finance*.—The development of modern agriculture and its credit needs; deficiencies of early institutions serving agriculture, and the rise and functioning of federally-sponsored credit institutions serving agriculture. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Wiley.

332. *Corporation Finance*.—May count as business administration. Development of corporate form of business; its advantages and disadvantages; legal position; promotion; sources of capital; internal financial management; receivership and reorganization. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Montgomery.

334. *The Standard of Living*.—Institutional and economic factors determining the standard of living. Population; sumptuary control; social and political programs; possibilities for the future. Prerequisite: Economics 313. May count as sociology if preceded by Economics 313 and Sociology 311. Three lectures a week for one semester. Miss Allen. (Not given in 1941-1942.)

335. *Economic Background of Modern Agriculture*.—Economic implications of the transition from self-sufficient to commercialized agriculture; the merits of programs and policies in light of needed readjustments. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Wiley.

336. Problems of Modern Agriculture.—The character and causes of mal-adjustments of modern agriculture; price problems; an evaluation of proposed readjustments. Prerequisite: Economics 335. Three lectures a week for one semester. Mr. Wiley.

338. Survey of the Economy of Mexico.—Natural resources and economic development of Mexico. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Nelson. (Not given in 1942-1943.)

347. The Economics of Natural Resources.—Problems resulting from the price system as a system of control of natural resources; particular attention to oil industry and other mineral resources of Texas. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Stocking. (Not given in 1944-1945.)

349. Labor Legislation.—Consideration of principal trends which have appeared in attempts of states to control employer-employee relations; principles involved; degree of success attained; present problems and possibilities. Prerequisite: Economics 313. Three lectures a week for one semester. Miss Allen.

350. The Economics of War.—Survey of the economic aspects of war; problems and procedure for the control of national output; production and consumption; wartime finance and fiscal policy; labor policy; administration; postwar economic readjustments. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Hildebrand. (Given for the first time in 1941-1942.)

351. Economic Institutions of Latin America.—Survey of institutions of production, trade, and control in Latin America, with emphasis on fundamental respects in which they differ from corresponding Anglo-American usages. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Nelson. (Given for the first time in 1943-1944.)

352. Economics of the Spanish-Speaking Countries of South America.—Survey of economic development in representative South American countries of Spanish speech, with special attention to Argentina. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Nelson. (Given for the first time in 1943-1944.)

353. Transportation.—Development of transportation system in the United States; Interstate Commerce Act and its amendments; freight classifications and rate systems; financial problems; consolidations; governmental ownership and operation. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Montgomery. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

354. Social Control of Business and the Law.—Economics 354 and 363K may not both be counted. Development of public policy toward business; anti-trust laws; court interpretation; work of Federal Trade Commission and other control agencies; recent price-control laws; effect on the economy.

Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Stocking. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

355. *Economic Problems in the Pan-American Movement.*—Inter-American and inter-hemisphere trade; raw materials and surpluses; tariffs and customs unions; investments, banking, and currency; and related problems affecting the course of the Pan-American movement. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Gordon. (Given for the first time in 1941-1942; not given in 1943-1944 or 1944-1945.)

356. *Introduction to Mathematical Economics.*—Mathematical treatment of economic theory, with particular reference to the theory of consumption, to price formation under conditions of competition, monopoly, and monopolistic competition, to theories of distribution, and to the problem of general equilibrium. Prerequisite: Economics 313, and Pure Mathematics 302 or Applied Mathematics 305 or the equivalent. Three lectures a week for one semester. Mr. Bergson. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

357. *Problems in Economic Planning.*—Analysis of the theory and problems of economic planning; aspects of economic planning in the Soviet Union, Italy, and Germany; survey of partial planning under capitalism, with particular reference to the New Deal. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Bergson. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

Business Administration 336R. Introduction to the Study of Resources.—May count as economics. See the Business Administration catalogue. Mr. Zimmermann.

Business Administration 352. Latin-American Resources and Trade.—May count as economics. See the Business Administration catalogue. Mr. Frederick, Mr. Zimmermann.

Philosophy 336. Value.—May count as economics if preceded by six hours of advanced economics. See Department of Philosophy. Mr. Brogan.

Philosophy 355. The Symbolic Process.—May count as economics if preceded by six hours of advanced economics. See Department of Philosophy. Mr. Gentry.

Senior and Graduate Courses

361. *Problems in Public Finance.*—Trend of government expenditures and debts; separation of sources of state and local revenues; classified property tax; state income tax; corporation taxes; fiscal policy; and business cycles. Prerequisite: Six hours of advanced economics. May count as government if preceded by Government 10. Three lectures a week for one semester. Mr. Miller. (Not given in 1941-1942 or 1944-1945.)

365. *Contemporary Economic Theory.*—Recent developments and trends in economic thought, with emphasis on the theory of monopolistic competition

and the Keynesian theory of employment. Prerequisite: Six hours of advanced economics. Three lectures a week for one semester. Mr. Hale. (Not given in 1942-1943.)

366. *Economic Forces*.—Analysis and definition of the forces in human behavior and culture (especially "technology" and "institutions") by virtue of the action and interaction of which economic development occurs. Prerequisite: Six hours of advanced economics. May count as philosophy if preceded by nine hours of advanced philosophy. Three lectures a week for one semester. Mr. Ayres. (Not given in 1942-1943 or 1943-1944.)

367. *Problems in Money and Banking*.—Monetary standards; United States monetary history since 1932; money and banking policies in relation to the functioning of the economy. Prerequisite: Six hours of advanced economics. Three lectures a week for one semester. Mr. Miller. (Not given in 1942-1943 or 1943-1944.)

371. *Theories of Economic Fluctuations*.—Monetary, over-investment, and underconsumption theories; theory of secular stagnation; programs for control of level of economic activity. Prerequisite: Six hours of advanced economics. Three lectures a week for one semester. Mr. Hale. (Not given in 1941-1942.)

372. *Factors in the Economic History of Europe*.—Controversial problems affecting the nature, sources, and process of development of industrial technology and the economy of free private enterprise. Prerequisite: Six hours of advanced economics. Three lecture hours a week for one semester. Mr. Ayres. (Not given in 1942-1943 or 1943-1944.)

374. *International Economic Policies*.—Economic factors in international relations and their bearing on world peace and economic security; protection; free trade; control of raw materials; financial penetration; economic barter. Prerequisite: Six hours of advanced economics. Three lectures a week for one semester. Mr. Gordon. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

375. *Labor Movements*.—Philosophies, aims, programs, and methods of organized labor movements with special attention to those in the United States. Prerequisite: Six hours of advanced economics. Three lectures a week for one semester. Miss Allen. (Not given in 1942-1943 or 1943-1944.)

376. *Texas State and Local Finance*.—Description, analysis, and appraisal of Texas practices in the light of general principles and the best American policies. Prerequisite: Six hours of advanced economics. Three lectures a week for one semester. Mr. Miller. (Given for the first time in the Summer Session, 1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

377. *Cartels and International Economic Policies*.—Analyzes decline of freedom of enterprise and trade; spread of domestic nationalism; cartel movement; economic principles underlying international division of labor and international economic policies. Prerequisite: Six hours of advanced

economics. Three lectures a week for one semester. Mr. Stocking. (To be offered for the first time in 1945-1946.)

280, 380, 80. *Research Course*.—Prerequisite: Graduate standing; twelve hours of advanced economics or consent of instructor. Mr. Miller, Mr. Stocking, Mr. Montgomery, Mr. Wiley, Mr. Ayres, Mr. Hale, Miss Allen.

381. *Economic Policy in Government Business*.—Economic policies applied in businesses owned and operated by government; institutional background; corporate devices; price, labor, financial, and tax policies; technological developments; political controls. Prerequisite: Graduate standing; twelve hours of advanced economics or consent of instructor. Three lectures a week for one semester. Mr. Montgomery. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

385. *Formation of Political Economy*.—Analysis of the basic concepts of economic thought with reference to their historical (especially Mercantilist and Physiocratic) sources and significance. Prerequisite: Graduate standing; twelve hours of advanced economics or consent of instructor. Three lectures a week for one semester. Mr. Ayres. (Not given in 1941-1942 or 1944-1945.)

386. *Value and Welfare*.—In classical theory economic values are thought to be measured by price. This course undertakes a critical examination of that assumption and possible alternatives. Prerequisite: Graduate standing; twelve hours of advanced economics or consent of instructor. Three lectures a week for one semester. Mr. Ayres. (Not given in 1941-1942 or 1944-1945.)

387. *Land Policies*.—Fundamentals of efficient land use; existing land use maladjustments; programs of reform. Prerequisite: Graduate standing; twelve hours of advanced economics or consent of instructor. Three lectures a week for one semester. Mr. Wiley. (Not given in 1943-1944 or 1944-1945.)

388. *Classical Economic Theory*.—Economics 388 and 368 may not both be counted. The classical school from Adam Smith to John Stuart Mill; emphasis is placed upon the development of classical theories of value, distribution, and capital formation. Prerequisite: Graduate standing; twelve hours of advanced economics or consent of instructor. Three lectures a week for one semester. Mr. Hale.

389. *Neo-Classical Economic Theory*.—Economics 389 and 368K may not both be counted. The development of economic thought from John Stuart Mill to Alfred Marshall; refinements of classical doctrines and neo-classical synthesis. Prerequisite: Graduate standing; twelve hours of advanced economics or consent of instructor. Three lectures a week for one semester. Mr. Hale. (Not given in 1943-1944.)

390. *Seminar in Labor*.—Problems will be selected from the field of labor problems or the history of labor organization in the United States or foreign countries. Prerequisite: Graduate standing; twelve hours of advanced economics or consent of instructor. The equivalent of three lectures a week for one semester. Miss Allen. (Not given in 1944-1945.)

391. Seminar in Taxation.—Restricted to state and local taxation, with special attention to Texas. Prerequisite: Graduate standing; twelve hours of advanced economics, including Economics 321 or its equivalent, or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Miller. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

393. Seminar in the Organization and Control of Industry.—Problems growing out of the concentration of economic control; an evaluation of the literature of the field; special reports by members of the seminar. Prerequisite: Graduate standing; twelve hours of advanced economics, including either Economics 363 or 328, or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Stocking. (Not given in 1944-1945.)

98. Thesis Course for the Master's Degree.—Prerequisite: Twelve hours of advanced economics and graduate standing. Mr. Miller, Mr. Stocking, Mr. Montgomery, Mr. Wiley, Mr. Ayres, Mr. Hale, Miss Allen.

99. Thesis Course for the Degree of Doctor of Philosophy.—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Miller, Mr. Stocking, Mr. Montgomery, Mr. Ayres, Miss Allen.

Business Administration 73Ga.i. Resources and Agriculture.—May count as economics if preceded by six hours of advanced economics. See the Business Administration catalogue. Mr. Zimmermann.

Business Administration 73Gb.i. Resources and Industry.—May count as economics if preceded by six hours of advanced economics. See the Business Administration catalogue. Mr. Zimmermann.

Philosophy 370. Seminar in Ethics.—May count as economics if preceded by nine hours of advanced economics. See Department of Philosophy.

DEPARTMENT OF ENGLISH

Reginald Harvey Griffith, Ph.D., Litt.D., *Professor of English*.⁵⁰

Robert Adger Law, Ph.D., LL.D., *Professor of English*.⁵¹

Leonidas Warren Payne, Jr., Ph.D., *Professor of English*.⁵²

Hanson Tufts Parlin, Ph.D., *Professor of English; Dean of the College of Arts and Sciences*.

James Blanton Wharey, Ph.D., LL.D., *Professor of English*.⁵³

Theodore Hornberger, Ph.D., *Professor of English*.⁵⁴

Rudolph Willard, Ph.D., *Professor of English*.

Lloyd Loring Click, Ph.D., *Professor of English; Assistant Dean of the College of Arts and Sciences*.

⁵⁰Modified service, effective September 1, 1943; absent on leave for the Fall Term of 1945-1946.

⁵¹Absent on leave for the second semester of 1941-1942 and for the Fall Term of 1945-1946.

⁵²Modified service, effective September 1, 1943; died June 16, 1945.

⁵³Modified service, effective September 15, 1942.

⁵⁴Absent on leave for the first semester of 1941-1942.

Evert Mordecai Clark, Ph.D., *Professor of English.*
James Frank Dobie, M.A., *Professor of English.*⁵⁵
Thomas Perrin Harrison, Jr., Ph.D., *Professor of English.*
DeWitt Talmadge Starnes, Ph.D., *Professor of English.*⁵⁶
Henry Nash Smith, Ph.D., *Professor of English; Professor of American History.*⁵⁷
Philip Edwin Graham, Ph.D., *Professor of English.*⁵⁸
David Lee Clark, Ph.D., *Professor of English.*⁵⁹
Mrs. Annie Sowell Irvine, Ph.D., *Associate Professor of English.*
Mody Coggin Boatright, Ph.D., *Associate Professor of English.*⁶⁰

Theodore Stenberg, Ph.D., LL.B., *Associate Professor of English.*
Martin Michael Crow, Ph.D., *Associate Professor of English.*⁶¹
Edward Garland Fletcher, Ph.D., *Associate Professor of English.*⁶²
Robert Clarence Stephenson, Ph.D., *Associate Professor of English; Associate Professor of Romance Languages.*⁶³
Erma May Gill, Ph.D., *Assistant Professor of English.*⁶⁴
George Louis Joughin, Ph.D., *Assistant Professor of English.*
Mrs. Alice Lovelace Cooke, Ph.D., *Assistant Professor of English.*
Daniel Morley McKeithan, Ph.D., *Assistant Professor of English.*
Joseph Jay Jones, Ph.D., *Assistant Professor of English.*⁶⁵
Elmer Bagby Atwood, Ph.D., *Assistant Professor of English.*⁶⁶

Willis Winslow Pratt, Ph.D., *Associate Professor of English.*⁶⁷
Harry Hunt Ransom, Ph.D., *Assistant Professor of English.*⁶⁸

⁵⁵Absent on leave for the first semester of 1942-1943 and for the sessions of 1943-1944, 1944-1945, and 1945-1946.

⁵⁶Absent on leave for the Fall Term of 1944-1945.

⁵⁷Appointment as *Professor of American History* effective September 15, 1942; absent on leave for 1945-1946.

⁵⁸Appointment changed from *Associate Professor* to *Professor*, effective September 15, 1942.

⁵⁹Appointment changed from *Associate Professor* to *Professor*, effective September 1, 1944.

⁶⁰Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1943.

⁶¹Absent on leave from September 15, 1942, to September 1, 1944; military service. Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

⁶²Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

⁶³Appointment changed from *Assistant Professor of Romance Languages* to *Associate Professor of English; Associate Professor of Romance Languages*, effective September 1, 1945. Appointed also as *Special Instructor in English* for the Winter Semesters of 1943-1944 and 1944-1945.

⁶⁴Absent on leave for the Fall Term of 1945-1946.

⁶⁵Appointment changed from *Instructor* to *Assistant Professor*, effective September 15, 1942.

⁶⁶Appointment changed from *Instructor* to *Assistant Professor*, effective September 15, 1942; absent on leave from September 1, 1944, to January 1, 1946.

⁶⁷Absent on leave from September 15, 1942, to November 1, 1945; military service. Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

⁶⁸Absent on leave, effective September 15, 1942; military service.

Leo Hughes, Ph.D., *Assistant Professor of English.*⁶⁹

Ralph Bernard Long, Ph.D., *Assistant Professor of English; Assistant Professor of Educational Psychology.*⁷⁰

Oscar Edward Maurer, Jr., Ph.D., *Assistant Professor of English.*⁷¹

Francis Edward Mineka, Ph.D., *Assistant Professor of English.*⁷¹

Herschel Clay Baker, Ph.D., B.Mus., *Assistant Professor of English.*⁷²

Clarence Lee Cline, Ph.D., *Assistant Professor of English.*⁷²

Mrs. Mary Grace Muse Adkins, Ph.D., *Instructor in English.*

Kenneth Franklin Gantz, Ph.D., *Instructor in English.*⁷³

Truman Guy Steffan, Ph.D., *Instructor in English.*⁷⁴

Lois Philip Ware, Ph.D., *Instructor in English.*

Aaron Schaffer, Ph.D., *Professor of Romance Languages.*⁷⁵

Katherine Ernestine Wheatley, Ph.D., *Associate Professor of Romance Languages.*⁷⁶

Facilities for Graduate Study

The Department of English offers graduate courses in various fields of study, including linguistics, creative writing, and criticism.

English literature constitutes one of the most extensive collections in the Library of The University of Texas. Histories, works of criticism—primary and secondary—as well as printed collections of source materials, are generally present. Society publications, as those of the Early English Text Society, are usually represented by complete files. There are good collections of journals which contain original and critical materials.

The combination of the Wrenn, Aitken, and Stark collections with the other resources of the University Library quite easily places The University of Texas third in rank among American universities for the graduate study of English literature from the Age of Spenser down to the late nineteenth century. A fairly good collection of modern editions, biographies, and criticism makes possible research also in the later period.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

⁶⁹Appointment changed from *Instructor* to *Assistant Professor*, effective September 15, 1942.

⁷⁰Appointment changed from *Instructor in English* to *Assistant Professor of English; Assistant Professor of Educational Psychology*, effective September 15, 1942; absent on leave for the Winter Semester of 1945-1946.

⁷¹Appointment effective September 15, 1942.

⁷²Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1945.

⁷³Absent on leave, effective September 15, 1942; military service.

⁷⁴Absent on leave for the second semester of 1942-1943 and for the session of 1943-1944.

⁷⁵Absent on leave for the second semester of 1941-1942.

⁷⁶Absent on leave for the Fall Term of 1944-1945 and from September 1, 1945, to December 1, 1945.

Specific prerequisites and requirements.—Students expecting to do advanced work in English are advised to take courses in the foreign languages, in history, and in philosophy.

If the student who is a candidate for the master's degree with English as his major has not credit for English 64a.i, 364K, or 360K, or the equivalent, he will be required to present one of these courses for the degree. The required thesis course is English 98.

A student majoring in English for the master's degree may count not more than nine semester hours of junior work on the degree, of which not more than three semester hours may be in the major.

In addition to the general regulations of The University of Texas for the Doctor of Philosophy degree, the following special regulations have been adopted:

1. That for the present the minor or minors may be chosen from the following departments: Germanic Languages, Romance Languages, Classical Languages, Philosophy, and History. In each case, however, the choice of minors must be approved by the candidate's supervising committee and by the Dean of the Graduate School.

2. That written examinations be required in the major and in the minor subjects; and an oral examination also be required in the major subject (English). In the major subject the candidate must manifest a general knowledge of the English language and literature (including American literature), and a detailed knowledge of the special field covered by his dissertation, as may be determined by the supervising committee in each case. The required thesis course is English 99.

3. That for most candidates seeking the Doctorate of Philosophy with English as a major a knowledge of Latin or Greek is desirable; and that for some of these candidates such knowledge is imperative. Accordingly, the supervising committee may prescribe whatever foreign language it deems necessary for the successful prosecution of the candidate's chosen work, in addition to the general requirements of a reading knowledge of French and German.

Junior Courses

321. Shakespeare.—Rapid survey of Shakespeare's principal works. Not open to students with credit for English 320. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mrs. Irvine, Mr. Ransom, Mrs. Adkins.

21a.i. Shakespeare.—English 21a and 320 may not both be counted. Detailed study of a few comedies and histories, followed by a reading of others. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Law, Mr. Harrison.

[**21b.i. Shakespeare.**—Detailed study of a few tragedies, followed by a reading of others. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Law, Mr. Harrison. (Beginning in 1945-1946, to be given as a senior course, English 366K.)]

22a.i. *Victorian Poetry: Tennyson, Arnold, and Swinburne*.—Parallel reading in the social background of the period. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Wharey.

22b.i. *Victorian Poetry: The Brownings and Rossetti*.—Parallel reading in the social background of the period. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Wharey.

323. *English and American Drama since 1800*.—English and American plays of the nineteenth and twentieth centuries, including Knowles, Browning, H. A. Jones, Bernard Shaw, O'Neill, and their contemporaries. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Griffith, Mr. Baker.

325. *Creative Writing*.—May be repeated for credit. For those who have the literary bent, or who for any reason wish to do more writing than is done in other composition courses. Prerequisite: A grade of *A* or *B* in six hours of sophomore English. Three class-hours a week for one semester. Mrs. Irvine, Miss Gill.

326K. *English Literature, 1200-1500*.—Medieval English literature in modern English, including tales from Chaucer, chronicles and romances, legends, lyrics, plays, and debates; parallel reading in literary and social history of the period. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Crow. (To be offered for the first time in 1945-1946.)

327. *The English Novel from Defoe through Scott*.—Representative English novels and novelists from 1700 to 1832, including typical works of Defoe, Richardson, Fielding, Sterne, Jane Austen, and Scott. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Wharey, Mr. Cline.

328. *History of the English Novel from Dickens through Hardy*.—Representative English novels and novelists of the nineteenth century, including typical works of Dickens, Thackeray, the Brontës, Eliot, Trollope, Meredith, and Hardy. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Wharey, Mr. Cline.

29a.i. *The Early Romantic Period, 1780-1815*.—Blake, Burns, Wordsworth, Coleridge, Lamb, Hazlitt, and others. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. D. L. Clark, Mr. Mineka.

29b.i. *The Later Romantic Period, 1815-1832*.—Byron, Shelley, Keats, Landor, DeQuincey, and others. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. D. L. Clark, Mr. Pratt, Mr. Steffan.

[330K. *English Phonetics and American Dialects*.—Same as Speech 330. English 330K may not be counted by students who have credit for English 311, Speech 311K, or Speech 330. Prerequisite: Six hours of sophomore

English. Three lectures a week for one semester. Miss Wheatley. (Since 1942-1943, given only as Speech 330.)]

331. *English Drama of the Restoration and Eighteenth Century*.—A study of the various dramatic forms through representative plays from Dryden to Sheridan. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Griffith. (Not given in 1943-1944.)

334. *Romance Literatures in English Translation*.—Masterpieces of French, Italian, and Spanish literatures, from the medieval epic to the modern drama. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Schaffer.

35. *Modern Literature, 1870-1918*.—The modern temper as reflected in representative English and American poets, novelists, and essayists. Prerequisite: Six hours of sophomore English. Three class-hours a week for two semesters. Mr. Parlin, Mr. Click, Mr. Pratt.

337. *American Literature, 1800-1865*.—The romantic movement, transcendentalism, and the debate on slavery, with particular reference to Bryant and the Knickerbocker writers, Poe, the New England group, Calhoun, and Simms. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Hornberger, Mrs. Cooke, Mr. McKeithan, Mr. Jones.

338. *American Literature, 1865-1900*.—The development of a realistic and critical school, with particular reference to Whitman, Lanier, Emily Dickinson, Mark Twain, Howells, and Frank Norris. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Hornberger, Mrs. Cooke, Mr. McKeithan, Mr. Jones.

[339. *Eighteenth-Century Prose*.—Prose of Defoe, Swift, Steele, Addison, Johnson, Boswell, Goldsmith, and Burke. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Stenberg. (Given only in 1942-1943; not to be given in 1945-1946 or 1946-1947.)]

340. *The American Novel*.—Representative American novels and novelists from 1850 to the present. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Graham, Mr. Boatright.

341. *The Short Story*.—May count as journalism. Practice in writing the short story, with study of contemporary models. Prerequisite: A grade of *A* or *B* in six hours of sophomore English. Three class-hours a week for one semester. Mrs. Irvine, Mr. Boatright, Mr. Crow.

[341K. *Technical Writing*.—Designed for the special needs of students in such groups as engineering, history, economics, who have their particular problems in writing. Prerequisite: Twelve hours of English. Three class-hours a week for one semester. (Not given after 1941-1942.)]

342. *Life and Literature of the Southwest*.—A study of verse, fiction, travels, and memoirs, to acquaint students with the literature reflecting the social inheritance of Texas and the neighboring territory. Prerequisite: Six hours

of sophomore English. Three class-hours a week for one semester. Mr. Dobie. (Not given in 1943-1944 or 1944-1945; not to be given in 1945-1946.)

343K. *Literature of the West*.—Readings in the literature of the westward movement during the nineteenth century. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Boatright. (Given for the first time in 1941-1942.)

345. *Seventeenth-Century Prose*.—Important essays, letters, tracts, addresses, diaries, and memoirs, with attention to the rise of interest in science and to the modernization of English prose. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. E. M. Clark. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

345Q. *Seventeenth-Century Poetry and Prose*.—Representative metaphysical, classical, cavalier, religious, and restoration poets from Donne to Dryden, including Milton, and prose selections from the Bible, Bacon, Walton, Milton, Bunyan, and others. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. E. M. Clark. (Given for the first time in the Summer Term, 1944.)

346. *English Literature, 1660-1714*.—Poetry, prose, and drama, with attention to the intellectual and social currents of the time. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Baker. (To be offered for the first time in the Summer Term, 1945.)

347. *English Literature, 1715-1780*.—The major poets and prose writers of the period, against the background of the contemporary society. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Hughes. (To be offered for the first time in 1945-1946.)

348. *Advanced Short Story Writing*.—Extensive practice in writing various forms of the short story, standard and experimental; study of types of stories represented in current magazines; group discussion and criticism. Prerequisite: English 341 with a grade of *A* or *B*; consent of instructor. Three class-hours a week for one semester. Mr. Dobie, Mr. Crow. (Not given in 1943-1944.)

349K. *English Literature, 1832-1870*.—Prose and poetry of the Victorian period, with attention to political, social, and scientific influences. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Maurer, Mr. Gantz. (To be offered for the first time in the Summer Term, 1945.)

352. *European Drama to 1890*.—Representative great plays from the Greek drama to Ibsen, studied both as dramatic literature and as theatrical productions. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Joughin. (Not given in 1943-1944.)

356. *The European Novel*.—Selected masterpieces of Continental fiction in English translation. Major emphasis is placed upon representative novelists of the nineteenth and twentieth centuries. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. Joughin.

356K. *Russian Literature in Translation*.—The nineteenth century, from Pushkin to Chekhov. Representative works, chiefly prose. Prerequisite: Six hours of sophomore English. Three class-hours a week for one semester. Mr. R. C. Stephenson. (Given for the first time in 1943-1944.)

Senior and Graduate Courses

360K. *Advanced Grammar*.—The structure of modern English: analysis, history, correct usage. Prerequisite: Six hours of advanced English or of advanced foreign language. Three class-hours a week for one semester. Mr. Long. (Given for the first time in 1941-1942.)

363. *Milton*.—All the poetry of Milton, with particular attention to *Comus*, *Samson Agonistes*, *Paradise Lost*. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. E. M. Clark.

64a.i. *Principles of the English Language: Modern English, 1400 to the Present*.—The living language, its sounds and developments; principles of grammatical organization and of historical grammar; problems in usage and types of standard. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Willard, Miss Ware.

64b. *Principles of the English Language: Old and Middle English*.—Sounds and inflexions of early English; principal developments and their reaction on later English grammar and spelling; etymology, growth of English vocabulary; dialects and standard usage. Prerequisite: English 64a. Three class-hours a week for one semester. Mr. Willard.

364K. *The English Language in America*.—Present-day American speech and its origins, with an introduction to modern methods of study. Observations in pronunciation, dialects, vocabulary, and usage, with considerable attention to the speech of Texas. Prerequisite: Six hours of advanced English or of advanced foreign language. Three class-hours a week for one semester. Mr. Atwood. (Not given in 1944-1945.)

[365. *The Renaissance and Reformation*.—The beginnings of modern English literature in its relation to the political, social, and cultural ideals of the Renaissance. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Starnes. (Given as a graduate course, English 390K, after 1942-1943.)]

366. *Elizabethan and Jacobean Drama*.—Plays, backgrounds, and trends from 1580 to 1642. Emphasis on Jonson, Beaumont, and Fletcher. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Miss Gill.

366K. *Shakespeare*.—Detailed study of a few tragedies, followed by a reading of others. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Law. (Prior to 1945–1946, given as a junior course, English 21b.i.)

367K. *Conference Course in Creative Writing*.—May be repeated for credit. For advanced students, already proficient in writing, who wish to work out, under supervision, specific and fairly extensive projects. Prerequisite: Six hours of advanced English and consent of instructor. Staff of the Department.

368. *Poetry of the English Classical Period*.—Poetry and theories of Dryden, Pope, Johnson, and their contemporaries. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Griffith.

369. *Modern European Drama*.—Ibsen and other major Continental dramatists; tradition and innovation in the substance and form of selected modern European plays. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Fletcher, Mr. Joughin.

[370. *Later Nineteenth-Century Prose*.—The reflection of social forces upon literature: Carlyle, Newman, Ruskin, Arnold, Pater, Huxley, and others. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. (Not given after 1941–1942.)]

371K. *Contemporary English and American Literature, 1918 to the Present*.—Chiefly poetry and fiction. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Payne, Mr. Fletcher.

372. *English Romanticism*.—Special topic, 1945–1946: Byron. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. D. L. Clark.

373. *Literary Relations between France and England, 1660–1800*.—The exchange of ideas and literary forms between France and England in this period. Emphasis upon the political, social, and philosophical background. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Joughin. (Not given in 1941–1942, 1942–1943, 1943–1944, or 1944–1945.)

373K. *The Folk Ballad*.—A comparative study based chiefly on representative European types of the ballad. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Stephenson. (To be offered for the first time in 1945–1946.)

374K. *Elizabethan Poetry and Prose*.—Renaissance thought and culture as revealed in the lyric and narrative poetry and in the prose masterpieces. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Starnes.

375. *The English Lyric of the Seventeenth Century*.—History of English lyrical poetry from Jonson to Dryden; special study of the lyrical types and developments; collateral reading in the principal poets of the period. Pre

requisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. E. M. Clark. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

376. *Chaucer: The Canterbury Tales*.—An introductory course devoted to the narrative art of the *Tales*, with some attention to social backgrounds. No previous training in Middle English required. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Crow.

377. *Life and Literature of the South*.—Literature of the Old and the New South, especially as it reflects the institutions and traditions of the region. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Graham.

378. *History and Principles of Literary Criticism*.—Classical and Renaissance criticism, followed by a study of representative works of English criticism from Sidney to the present. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Stenberg.

379. *American Literature and Thought: 1600-1800*.—Intensive study of such problems as European ideas of the New World, travel literature, Puritanism, the political beliefs of Hamilton and Jefferson. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Hornberger.

379K. *American Literature and Thought: Nineteenth Century*.—Such topics as nationalism, transcendentalism, the impact of the theory of organic evolution, and Utopian thought. Prerequisite: Six hours of advanced English. Three class-hours a week for one semester. Mr. Smith.

380K. *Studies in the Literature of the Southwest*.—Prerequisite: Twelve hours of advanced English; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Dobie, Mr. Boatright. (Given for the first time in 1941-1942; not given in 1942-1943 or 1943-1944.)

382K. *Studies in Spenser*.—English 382K and 362 may not both be counted. Consideration of Spenser's minor and major work, with chief attention to the *Shephearde's Calender* and the *Faerie Queene*. Assignment of problems and bibliographical study. Prerequisite: Twelve hours of advanced English; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Harrison.

383. *Studies in Milton and His Contemporaries*.—An investigation of backgrounds, biography, bibliography; selected aspects of Milton's poetry and prose, with some attention to related contemporaries; a survey of current criticism and research. Prerequisite: Twelve hours of advanced English, including preferably three hours in Milton; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. E. M. Clark. (Not given in 1941-1942 or 1942-1943.)

84. *Old English*.—Detailed study of the Old English language, with the reading of selected prose texts, and *Beowulf*. Prerequisite: English 64; graduate standing or consent of instructor. Three class-hours a week for two semesters. Mr. Willard.

85. *Middle English*.—May be repeated for credit. Linguistic and literary study of selected texts in Middle English, especially in the Midland dialect. The material will vary from year to year: In 1945–1946, *Chaucer*; 1946–1947, *The Alliterative Poets*. Prerequisite: English 64; graduate standing or consent of instructor. Three class-hours a week for two semesters. Mr. Willard.

386. *Studies in the English Drama before Shakespeare*.—Problems in the development of the English drama from its origins in the miracle and morality plays through Greene and Marlowe. Prerequisite: Twelve hours of advanced English; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Law. (Not given in 1944–1945.)

387. *Studies in the Eighteenth Century*.—Prerequisite: Twelve hours of advanced English, including preferably English 331, 339, or 368; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Griffith. (Not given in 1944–1945.)

388. *Studies in American Literature*.—Introduction to bibliography and research methods, utilizing the Bieber Collection of American Poetry. The period of 1800–1830 studied in 1945–1946, and that of 1830–1860 in 1946–1947. Prerequisite: Twelve hours of advanced English, including preferably six hours of American literature; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Hornberger.

389. *Studies in American Literature*.—Special problems in American fiction and sociological writing, 1865–1900, with particular attention to regionalism and social criticism. Prerequisite: Twelve hours of advanced English, including preferably six hours of American literature; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Hornberger.

390K. *Studies in the Literature of the Renaissance and Reformation*.—The beginnings of modern English literature in its relation to the political, social, and cultural ideals of the Renaissance. Prerequisite: Twelve hours of advanced English; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Starnes. (Prior to 1943–1944, given as a senior course, English 365.)

91Ka.i. *Studies in American Thought to 1860*.—Same as History 91a. Special problems in American intellectual history down to the Civil War, with emphasis upon the interaction between ideas and institutions: social, political, and economic. Prerequisite: Twelve hours of advanced English; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Smith. (Given for the first time in 1942–1943.)

91Kb.i. *Studies in American Thought From 1860 to the Present*.—Same as History 91b. Special problems in American intellectual history from the Civil War to the present, with emphasis upon the interaction between ideas

and institutions: social, political, and economic. Prerequisite: Twelve hours of advanced English; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Smith. (Given for the first time in 1942-1943.)

392. *Studies in the Age of Dryden*.—Prerequisite: Twelve hours of advanced English, including preferably English 29a, 331, 339, or 368; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Griffith. (Not given in 1944-1945.)

393. *Studies in Shakespeare*.—Problems in the plays of Shakespeare, with special reference to chronology, texts, and sources. Prerequisite: Twelve hours of advanced English, including preferably six hours of Shakespeare; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Law.

393K. *Shakespeare in America*.—Reading, acting, and study of Shakespeare in the United States from the middle of the eighteenth century to the present. Prerequisite: Twelve hours of advanced English, including preferably six hours in Shakespeare; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Law. (Given for the first time in the Summer Term, 1944; not given in 1944-1945.)

394. *Studies in Contemporary Literature*.—1945-1946: John Galsworthy. Prerequisite: Twelve hours of advanced English; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Click. (Not given in 1942-1943 or 1943-1944.)

395. *Studies in the Romantic Period: Byron*.—Prerequisite: Twelve hours of advanced English; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Griffith.

395K. *Studies in the Romantic Period*.—The topics vary: Shelley, Wordsworth and Coleridge. Prerequisite: Twelve hours of advanced English; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. D. L. Clark. (Prior to 1944-1945, given as topics in English 395.)

[396. *Bunyan and His Contemporaries*.—Prerequisite: Twelve hours of advanced English, including preferably English 345, 363, or 383; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Wharey. (Not given after 1941-1942.)]

396K. *Studies in Victorian Poetry*.—Prerequisite: Twelve hours of advanced English, including preferably three hours in Victorian poetry; graduate standing or consent of instructor. Three class-hours a week for one semester. Mr. Wharey. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

98. *Thesis Course for the Master's Degree*.—Prerequisite: Twelve hours of advanced English. Mr. Griffith, Mr. Law, Mr. Payne, Mr. Wharey, Mr. Click, Mr. E. M. Clark, Mr. Dobie, Mr. T. P. Harrison, Mr. Hornberger, Mr. Starnes,

Mr. Willard, Mr. Smith, Mr. Graham, Mr. D. L. Clark, Mrs. Irvine, Mr. Stenberg, Mr. Boatright, Miss Gill, Mr. Fletcher, Mr. Joughin, Mr. Crow, Mrs. Cooke, Mr. McKeithan, Mr. Jones, Mr. Atwood.

99. Thesis Course for the Degree of Doctor of Philosophy.—Prerequisite: Formal approval of the candidate's registration by vote of the instructors of the course. Mr. Griffith, Mr. Law, Mr. Payne, Mr. Wharey, Mr. E. M. Clark, Mr. Dobie, Mr. T. P. Harrison, Mr. Hornberger, Mr. Starnes, Mr. Willard, Mr. Smith, Mr. D. L. Clark.

FRENCH

See Department of Romance Languages, page 161.

DEPARTMENT OF GEOLOGY

Elias Howard Sellards, Ph.D., *Professor of Geology; Director Emeritus and Geologist, Bureau of Economic Geology; Director of the Texas Memorial Museum.*⁷⁷

Luther Crocker Snider, Ph.D., *Professor of Geology.*⁷⁸

Francis Luther Whitney, Ph.D., *Professor of Geology and Paleontology.*

Halbert P. Bybee, Ph.D., *Professor of Geology; Geologist in Charge of University Lands.*⁷⁹

Fred Mason Bullard, Ph.D., *Professor of Geology and Mineralogy.*⁸⁰

John T. Lonsdale, Ph.D., *Professor of Geology; Director of the Bureau of Economic Geology.*⁸¹

Henry Gordon Damon, Ph.D., *Associate Professor of Geology.*⁸²

Mrs. Esther Richards Applin, M.A., *Assistant Professor of Geology.*⁸³

Arthur Harwood Deen, M.A., *Professor of Geology.*

Donald Leslie Frizzell, Ph.D., *Associate Professor of Paleontology.*⁸⁴

Gus Kearney Eifler, Jr., Ph.D., *Assistant Professor of Geology.*⁸⁵

⁷⁷Modified service, effective September 1, 1945; appointment as *Director, Bureau of Economic Geology*, changed to *Director Emeritus and Geologist, Bureau of Economic Geology*, effective September 1, 1945.

⁷⁸Absent on leave for the Fall Term of 1943-1944 and 1944-1945.

⁷⁹Absent on leave for the Fall Term of 1945-1946.

⁸⁰Absent on leave for the Fall Term of 1944-1945.

⁸¹Appointment effective September 1, 1945.

⁸²Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1943.

⁸³Appointment effective September 15, 1942; absent on leave for the Fall Term of 1944-1945; resignation effective February 28, 1945.

⁸⁴Appointment effective March 1, 1945; absent on leave for the Fall Term of 1945-1946.

⁸⁵Absent on leave from September 15, 1942, to November 1, 1945; military service.

William Allen Bramlette, M.A., *Assistant Professor of Geology*.⁸⁶

William Charles Bell, Ph.D., *Instructor in Geology*.⁸⁷

Adnan Mehmet Kucukcetin, B.S. in Geol., *Tutor in Geology*.⁸⁸

Facilities for Graduate Work

The Department of Geology is prepared to direct and supervise research problems along the following lines: *Paleontology, Micropaleontology, General and Structural Geology, Physiography, Mineralogy, Petrology, Petrography, Stratigraphy, and Geophysics*. Library facilities are adequate, most of the books, bulletins, and papers having been carefully selected to meet the needs of students in the fields indicated below. When necessary, special volumes may be obtained, through the University Librarian, from the libraries of other institutions or organizations.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—Students contemplating courses leading to the degree of Master of Arts should comply with the natural science requirements for the Bachelor of Arts degree having geology as the major subject or the requirements for the Bachelor of Science degree in Geology. Their attention is further directed to the following statements with reference to preliminary courses in certain fields:

1. In addition to Geology 1, the foundation course, the student before entering upon graduate work in paleontology should have Geology 21, *Historical Geology*, Geology 23, *Invertebrate Paleontology*, and Geology 364 or Geology 365, *Paleontology*.

If the student is interested in micropaleontology, in addition to Geology 1, the foundation course, the student before entering upon graduate work should have Geology 21, *Historical Geology*, Geology 40, *Micropaleontology and Subsurface Geology*, Geology 368, *Paleozoic Micropaleontology*, and Geology 369, *Mesozoic and Cenozoic Micropaleontology*.

2. Graduate students before specializing in some phase of general and structural geology should have completed Geology 21, *Historical Geology*, Geology 23, *Invertebrate Paleontology*, Geology 328, *Structural Geology*, and Geology 44, *Petroleum Structures*.

3. Graduate students intending to major in physiography, in addition to Geology 1, should have completed as preliminary to their work Geology 312, *Physiography of North America*, Geology 21, *Historical Geology*, either Geology 33, *Physiography and Geology of North America*, or Geology 34, *Physiog-*

⁸⁶Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1943; absent on leave for 1943-1944 and 1944-1945; resignation effective June 30, 1945.

⁸⁷Absent on leave, effective September 15, 1942, military service; resignation effective September 1, 1945.

⁸⁸Appointment for 1944-1945.

rathy and Geology of South America; and Geology 350, Geomorphology (Aerial Photographs).

4. Those students preparing for graduate work in mineralogy, petrology, and petrography, in addition to Geology 1, and Geology 16, *Mineralogy and Petrology*, should complete as preliminary work Geology 26, *Petrography*, Geology 327, *Sedimentary Petrology*, Geology 337, *Economic Geology (Non-Metals)*, Geology 338, *Economic Geology (Metals)*, and Geology 370, *Sedimentation*.

5. Students preparing for graduate studies in stratigraphy, in addition to Geology 1, should have completed as preliminary work Geology 21, *Historical Geology*; Geology 23, *Invertebrate Paleontology*, Geology 328, *Structural Geology*, Geology 364 or Geology 365, *Paleontology*, and Geology 375 or Geology 376, *Stratigraphy of Texas*.

6. Students expecting to further their graduate studies in the field of geophysics should complete as preliminary work, in addition to Geology 1, Geology 21, *Historical Geology*, Geology 328, *Structural Geology*, and Geology 355, *Geophysics*. While the foregoing courses are in progress, the student should complete as much mathematics and physics as possible.

No student should contemplate taking the Master of Arts degree without including either at the undergraduate or graduate level Geology 60, *Field Course* (given by the camp method during the summer).

In addition to the thesis, each student majoring in geology for the master's degree will be expected to choose his work at the senior and graduate levels. In order to count a junior course on the master's degree, the student must have the approval of both the Chairman of the Department and the Dean of the Graduate School prior to or at the time of registration.

In planning their courses, candidates for the degree of Master of Arts or of Doctor of Philosophy should consult with the professor under whom their major work is to be done.

Junior Courses

21. *Historical Geology*.—Study and interpretation of the sequence of events in the history of the earth and its inhabitants. Orogeny, sedimentation, climatic factors, and evolution are stressed. Prerequisite: Twelve hours of geology. Three lectures a week for two semesters. Mr. Snider.

322. *Application of Structural Geology and Sedimentology to Oil Structures*.—Open only to petroleum engineers. Oil structures and sedimentary conditions conducive to oil accumulation. Prerequisite: Geology 316. Three lectures a week for one semester. (To be offered for the first time in 1945-1946.)

23a.i. *Invertebrate Paleontology*.—The genera of invertebrate phyla. Prerequisite: Geology 1 and junior standing. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Whitney.

23b. *Invertebrate Paleontology*.—Continuation of Geology 23a and study of the Paleozoic index fossils. Prerequisite: Geology 23a. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Whitney.

324. *Lower Paleozoic Stratigraphic Paleontology*.—Representative Cambrian, Ordovician, Silurian, and Devonian invertebrate faunas, with special emphasis on those from Texas. Prerequisite: Geology 23. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Bell. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

325. *Upper Paleozoic Stratigraphic Paleontology*.—Mississippian, Pennsylvanian, and Permian invertebrate faunas, with emphasis on index fossils. Prerequisite: Geology 23. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Bramlette. (Given for the first time in 1941-1942; not given in 1943-1944 or 1944-1945.)

26a.i, 26b. *Petrography*.—Determination of rock-forming minerals with the polarizing microscope; a study of igneous, metamorphic, and sedimentary rocks; separation and identification of detrital minerals; size and shape analyses; and insoluble residues. Prerequisite: Twelve hours of geology, including Geology 16 or 36. Geology 26a is prerequisite to 26b. One lecture and six laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Bullard.

327. *Sedimentary Petrology*.—Sedimentary rocks and their structures and textures. Prerequisite: Twelve hours of geology. Three lectures a week for one semester. Mr. Deen.

328. *Structural Geology*.—The structural features of the earth, their causes, distribution, and economic values. Prerequisite: Geology 1 and junior standing. Three lectures a week for one semester. Mr. Bybee.

332. *Stratigraphy for Petroleum Engineers*.—Open only to petroleum engineers. Sedimentary stratigraphy of Texas and the Gulf Coast as it applies to oil-bearing formations. Prerequisite: Geology 322. Three lectures a week for one semester. (To be offered for the first time in 1946-1947.)

33. *Geology and Physiography of North America*.—Prerequisite: Twelve hours of geology. Three lectures a week for two semesters. Mr. Bybee. (Not given in 1943-1944 or 1944-1945.)

34a.i, 34b.i. *Physiography and Geology of South America*.—A personally directed seminar course for a limited number of students. Prerequisite: Twelve hours of geology. The equivalent of three lectures a week for two semesters. Mr. Deen. (Not given in 1943-1944 or 1944-1945.)

36. *Mineralogy and Petrology*.—Geology 36 and 16 may not both be counted. Introductory course in the study of minerals and rocks, including the elements of crystallography; determination of the common minerals by their physical properties; origin, mode of occurrence, and determination of the common types of igneous, sedimentary, and metamorphic rocks. Prerequi-

site: Twelve hours of geology, and Chemistry 801 or 5. First semester, one lecture and six laboratory hours a week; second semester, two lectures and three laboratory hours a week. Laboratory fee, \$4. Mr. Bullard, Mr. Deen, Mr. Kucukcetin.

337. *Economic Geology (Non-Metals)*.—A general course treating the nature, occurrence, distribution, origin, and uses of the non-metallic resources, such as coal, petroleum, salt, gypsum, building stone, etc. Prerequisite: Geology 16a and junior standing. Three lectures a week for one semester. Mr. Bullard. (Given in alternate years; to be given in 1945-1946.)

338. *Economic Geology (Metals)*.—A general course treating the nature, occurrence, distribution, origin, and uses of the metallic mineral resources, such as gold, silver, lead, zinc, etc. Although this course may be taken independently of Geology 337, both are essential to a general survey of the field of economic geology. Prerequisite: Geology 16a and junior standing. Three lectures a week for one semester. Mr. Bullard. (Given in alternate years; to be omitted in 1945-1946.)

40a.i. *Micropaleontology and Subsurface Geology*.—Foraminifera, ostracods, well samples, thin sections, well logs, subsurface cross sections, peg models, subsurface structural and isopach maps, and correlation of subsurface data. Prerequisite: Geology 1 and junior standing. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Frizzell.

40b. *Micropaleontology and Subsurface Geology*.—Continuation of Geology 40a, which is prerequisite. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Frizzell.

44a.i. *Petroleum Structures*.—A mathematical study of structures favorable for the accumulation of oil, including a study of block diagrams and map interpretation. Prerequisite: Geology 1 and junior standing. Three lectures a week for one semester. Mr. Whitney.

44b. *Petroleum Structures*.—Continuation of Geology 44a, which is prerequisite. Three lectures a week for one semester. Mr. Whitney.

346. *Petroleum Structures Laboratory*.—Prerequisite or parallel: Geology 44. Four and one-half laboratory hours a week for two semesters. Laboratory fee, \$2. Mr. Eifler. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

347. *Subsurface Correlation Methods for Petroleum Engineers*.—Mechanical analyses of sands, identification of drill cuttings, preparation and interpretation of well logs, and the use of micropaleontology in identifying subsurface horizons. Prerequisite: Geology 316 or 16a, and Petroleum Engineering 321. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Bullard, Mr. Frizzell.

350. *Geomorphology (Aerial Photographs)*.—Land Forms. Vertical and oblique aerial photographs are used in the study of the surface features of the earth. Prerequisite: Twelve hours of geology. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Bybee. (Not given in 1941-1942 or 1943-1944.)

351. *Vertebrate Paleontology*.—Anatomy, evolution, and phylogenetic history of fossil vertebrates with emphasis on mammals. Prerequisite: Twelve hours of geology. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Deen. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

355. *Geophysics (As Applied to Oil Prospecting)*.—Same as Petroleum Engineering 355. Interpretation and application of prospecting methods (seismic, magnetic, gravitational, electrical, etc.), with particular reference to the petroleum industry. Prerequisite: Geology 1 and twelve additional hours of geology or mathematics or physics. Three lectures a week for one semester. Lectures by men associated with the petroleum industry. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

Senior and Graduate Courses

60. *Field Geology*.—May be repeated for credit, inasmuch as the work is carried on in a different area each summer. Methods of geologic surveying, including reconnaissance and detailed mapping, structural mapping with both plane table and barometer, measuring sections, and the interpretation of the stratigraphy and structure of the area. Given by the camp method during the summer. Lectures and field work. Prerequisite: Eighteen hours of geology, six of which must be advanced. Mr. Whitney, Mr. Bullard.

62. *Geology of Petroleum*.—Prerequisite: Six hours of advanced geology. Three lectures a week for two semesters. Mr. Whitney.

364. *Paleontology*.—Paleontology and stratigraphy of the Gulf series of the Cretaceous and lower Tertiary formations. Prerequisite: Geology 23a, three additional hours of advanced geology, and senior standing. Nine hours of laboratory and field work a week for one semester. Laboratory fee, \$2. Mr. Whitney. (Not given in 1943-1944 or 1944-1945.)

365. *Paleontology*.—Paleontology and stratigraphy of the Comanche series of the Cretaceous. Prerequisite: Geology 23a and three additional hours of advanced geology. Nine hours of laboratory and field work a week for one semester. Laboratory fee, \$2. Mr. Whitney.

368. *Paleozoic Micropaleontology*.—Foraminifera (especially Fusulinidae), ostracods, conodonts, Bryozoa, etc., studied in relation to morphology, classification, and stratigraphic ranges. Prerequisite: Eighteen hours of geology, including Geology 40. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Frizzell. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

369. *Mesozoic and Cenozoic Micropaleontology*.—Microfossil assemblages, with emphasis on correlation, stressing the economic applications of biostratigraphy. Prerequisite: Eighteen hours of geology, including Geology 40. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Frizzell. (Not given in 1943-1944.)

370. Sedimentation.—Interpretation of conditions of sedimentation as revealed by the composition and structure of sediments, and techniques used in their mechanical and mineral analyses. Prerequisite: Geology 327 and credit or registration for Geology 26a. One lecture and six hours of laboratory and field work a week for one semester. Laboratory fee, \$2. Mr. Damon.

373. Problems in Petroleum Geology.—A critical review of the fundamental geological theories and conditions affecting exploration for and exploitation of petroleum and natural gas deposits. Prerequisite: Six hours of advanced geology. Three lectures a week for one semester. Mr. Snider. (Not given in 1943-1944 or 1944-1945.)

374. Petroleum Resources.—The relative importance of petroleum and natural gas producing horizons and areas, of their position in national and world affairs, and of the conditions affecting their development. Prerequisite: Six hours of advanced geology. Three lectures a week for one semester. Mr. Snider.

375. Pre-Cambrian and Early Paleozoic Stratigraphy of Texas.—Prerequisite: Six hours of advanced geology. Three lectures a week for one semester. Mr. Deen. (Prior to 1943-1944 given as a graduate course, Geology 82a; not given in 1944-1945.)

376. Late Paleozoic and Mesozoic Stratigraphy of Texas.—Prerequisite: Six hours of advanced geology. Three lectures a week for one semester. Mr. Deen. (Prior to 1943-1944 given as a graduate course, Geology 82b, but not given as 376 until 1944-1945.)

80. Paleontological Research.—Prerequisite: Twelve hours of advanced geology, including Geology 23, 364, and 365; graduate standing. Mr. Whitney. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

81. Physiographic and Structural Geology.—Prerequisite: Eighteen hours of geology, six of which must be advanced; graduate standing. Three lectures a week for two semesters. Mr. Bybee. (Not given in 1943-1944.)

[**82. Research Problems in Geology.**—Same as Petroleum Engineering 82. Prerequisite: Eighteen hours of geology, six of which must be advanced; graduate standing. Mr. Deen. (Given as two senior courses, Geology 375 and 376, after 1942-1943.)]

383. Research in Sedimentation.—Each student is assigned an individual research problem in sedimentation. One lecture and six laboratory hours a week for one semester. Prerequisite: Twelve hours of advanced geology, including Geology 370; graduate standing. Mr. Damon. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

84. Research in Mineralogy and Petrography.—Prerequisite: Twelve hours of advanced geology, including Geology 26; graduate standing. Mr. Bullard. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

85. *Research in Micropaleontology and Subsurface Geology.*—May be repeated for credit. Individual problems to be selected by students. Prerequisite: Eighteen hours of geology, including credit or registration for Geology 40a; graduate standing. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

87. *Research in Petroleum Geology: A Seminar Course.*—Prerequisite: Twelve hours of advanced geology, including either Geology 373 or 374; graduate standing. The equivalent of three lectures a week for two semesters. Mr. Snider.

98. *Thesis Course for the Master's Degree.*—Prerequisite: Graduate standing in geology. Mr. Whitney, Mr. Sellards, Mr. Bybee, Mr. Bullard, Mr. Snider.

99. *Thesis Course for the Degree of Doctor of Philosophy.*—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Whitney, Mr. Sellards, Mr. Bybee, Mr. Bullard, Mr. Snider.

DEPARTMENT OF GERMANIC LANGUAGES

Johannes Lassen Boysen, Ph.D., *Professor of Germanic Languages.*⁸⁹

Lee M. Hollander, Ph.D., *Professor of Germanic Languages.*

Robert T. Clark, Jr., Ph.D., *Professor of Germanic Languages.*⁹⁰

Hans Matthias Wolff, Ph.D., J.D., *Instructor in Germanic Languages.*⁹¹

Facilities for Graduate Study

Library equipment in the Germanic languages is entirely adequate in periodical and bibliographical works, and in the reports and publications of academies and scientific societies, both American and foreign. The Library also contains a number of large collections of texts such as the *Bibliothek des Literarischen Vereins in Stuttgart*, to mention one of the largest. Students interested in Scandinavian lore may find unexpected treasures in the Swante Palm Collection, which is now completely catalogued and accessible.

Graduate study is encouraged in Old Norse, Gothic, Middle High German, and German language and literature. Old Norse will introduce the student to one of the richest and most original of medieval literatures. No language is better suited than Gothic to introduce the student to the historical study of English and German.

⁸⁹Modified service.

⁹⁰Appointment effective September 1, 1945.

⁹¹Absent on leave for the Fall Term of 1943-1944; resignation effective February 28, 1946..

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—The work of graduate students registered for courses open also to undergraduates is expected to be both broader in scope and more advanced in character than that of the undergraduates. To meet this requirement graduate students will be assigned extra work. A student majoring in German for the master's degree may count not more than nine semester hours of junior work on the degree, of which not more than three semester hours may be in the major.

Students majoring in German for the Master of Arts degree must have had German 41 or its equivalent.

Under present conditions it is impossible to give a definite sequence of courses leading to the degree of Doctor of Philosophy with German literature or Germanic philology as a major. In general, a candidate must be familiar with the elements both of German literature and of Germanic philology, and he must show a thorough first-hand knowledge of the major field.

Junior Courses

323. Germanic Literatures in English Translation.—Will not count as foreign language credit. Masterpieces on the background of the history and culture of the respective periods with special emphasis on the English analogues. Prerequisite: Six hours of sophomore English. Three lectures a week for one semester. Mr. Hollander. (Offered for the first time in 1942-1943 but not yet given.)

41a.i, 41b.i. History of German Literature.—Required of German majors and should be taken before any other advanced German. Prerequisite: Six hours of sophomore German. Three lectures a week for two semesters. Mr. Hollander.

43. German Literature from Schiller's Death to 1870.—Prerequisite: Six hours of sophomore German. Three lectures a week for two semesters. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

44. German Literature from 1870 to the Present.—Prerequisite: Six hours of sophomore German. Three lectures a week for two semesters. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

50a.i, 50b.i. The German Short Story of the Nineteenth Century.—Reading and detailed analysis of representative short stories of the nineteenth century; the literary movements that form their background. Prerequisite: Six hours of sophomore German. Three hours a week for two semesters. Mr. Wolff. (Given for the first time in 1943-1944.)

51a.i. The Nineteenth Century, Survey Course: The Romantic Period.—Prerequisite: Six hours of sophomore German. Three lectures a week for one semester. Mr. Wolff. (To be offered for the first time in 1945-1946.)

51b.i. The Nineteenth Century, Survey Course: From Romanticism to Realism.—Prerequisite: Six hours of sophomore German. Three lectures a week for one semester. Mr. Wolff. (To be offered for the first time in 1945-1946.)

Senior and Graduate Courses

64a.i. The Young Goethe and the "Storm and Stress."—German 64a and 62 may not both be counted. Prerequisite: German 41, 43, or 44. Three lectures a week for one semester. Mr. Boysen. (Not given in 1942-1943 or 1944-1945.)

64b.i. Goethe in Weimar.—German 64b and 62 may not both be counted. Prerequisite: German 41, 43, 44, or 50. Three lectures a week for one semester. Mr. Boysen. (Not given in 1941-1942 or 1943-1944.)

365. Lessing.—German 365 and 62 may not both be counted. Lessing and German rationalism. Prerequisite: German 41, 43, or 44. Three lectures a week for one semester. Mr. Boysen. (Not given in 1942-1943 or 1944-1945.)

366. Schiller.—A student with credit for German 337 or 62 may not receive credit for German 366. Prerequisite: German 41, 43, or 44. Three lectures a week for one semester. Mr. Boysen. (Not given in 1941-1942 or 1943-1944.)

380. Gothic.—Prerequisite: Six hours of advanced German or an elementary knowledge of one of the old Germanic dialects; graduate standing. Three lectures a week for one semester. Mr. Boysen.

381. Elements of Germanic Philology.—An elementary knowledge of Latin or Greek is desirable. Prerequisite: German 380; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Boysen.

82. Middle High German.—Prerequisite: Twelve hours of advanced German; graduate standing. Three lectures a week for two semesters. Mr. Hollander. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

383. Old Norse.—Prerequisite: An elementary knowledge of one of the old Germanic dialects; graduate standing. Three lectures a week for one semester. Mr. Hollander. (Not given in 1942-1943.)

384. Old Norse.—Prerequisite: German 383. Three lectures a week for one semester. Mr. Hollander.

85. Conference Course in German Literature.—Prerequisite: Master's degree with the major subject German. The equivalent of three lectures a week for two semesters. Mr. Boysen, Mr. Hollander. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

[*87. Shakespeare in Germany.*—A course in comparative literature, devoted primarily to a detailed study of the rebirth of German literature and the romantic movement under the influence of Shakespeare. Prerequisite: Twelve hours of advanced German and graduate standing, or Master of Arts degree in English and reading knowledge of German. Three lectures a week for two semesters. Mr. Wolff. (Given for the first time in 1942-1943; not given in 1943-1944 or 1944-1945; not to be given in 1945-1946 or 1946-1947.)]

[88. *Studies in German Literature of the Eighteenth and Nineteenth Centuries*.—May be repeated for credit. The first half may be taken as an independent course. Literary movements in the two centuries. Topic to be announced. Prerequisite: Twelve hours of advanced German; graduate standing. Three lectures a week for two semesters. Mr. Wolff. (Given for the first time in 1943-1944; not to be given in 1945-1946 or 1946-1947.)]

89a.i. *Studies in German Literature*.—Topic for 1945-1946: *German Poetry of the Twentieth Century*. Prerequisite: Twelve hours of advanced German; graduate standing. Three lectures a week for one semester. Mr. Clark. (To be offered for the first time in 1945-1946.)

89b.i. *Studies in German Literature*.—Topic for 1945-1946: *The German Drama and Novel of the Twentieth Century*. Prerequisite: Twelve hours of advanced German; graduate standing. Three lectures a week for one semester. Mr. Clark. (To be offered for the first time in 1945-1946.)

390. *Advanced Old Norse*.—A study of saga and eddic literature. Prerequisite: Graduate standing and previous study of the language. Three lectures a week for one semester. Mr. Hollander. (To be offered for the first time in 1945-1946.)

391. *Advanced Old Norse*.—Continuation of German 390, which is prerequisite. Three lectures a week for one semester. Mr. Hollander. (To be offered for the first time in 1945-1946.)

98. *Thesis Course for the Master's Degree*.—Prerequisite: Twelve hours of advanced German; graduate standing. Mr. Boysen, Mr. Hollander, Mr. Clark.

99. *Thesis Course for the Degree of Doctor of Philosophy*.—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Boysen, Mr. Hollander, Mr. Clark.

DEPARTMENT OF GOVERNMENT

Caleb Perry Patterson, Ph.D., LL.B., *Professor of Government*.

Oliver Douglas Weeks, Ph.D., *Professor of Government*.⁹²

John Lloyd Mecham, Ph.D., *Professor of Government*.⁹³

Charles August Timm, Ph.D., *Professor of Government*.⁹⁴

John Alton Burdine, Ph.D., *Vice-President; Professor of Government*.⁹⁵

Stuart Alexander MacCorkle, Ph.D., *Professor of Government; Director of the Bureau of Municipal Research*.⁹⁶

Emmette Shelburn Redford, Ph.D., *Professor of Government*.⁹⁷

⁹²Absent on leave for the Fall Term and Winter Semester of 1945-1946.

⁹³Absent on leave for the Winter and Spring Semesters of 1943-1944 and for the Fall Term of 1944-1945.

⁹⁴Absent on leave for the first semester of 1941-1942 and for the sessions of 1942-1943, 1943-1944, 1944-1945, and 1945-1946.

⁹⁵Resignation as *Vice-President* effective January 31, 1945.

⁹⁶Absent on leave for 1941-1942 and 1942-1943.

⁹⁷Absent on leave from January 12, 1942, to November 1, 1945.

George Lowell Field, Ph.D., *Assistant Professor of Government*.⁹⁸
Howard Andrew Calkins, M.A., *Assistant Professor of Government*.

Augustus Rutan Hatton, Ph.D., LL.D., *Professor of Government*.⁹⁹

Pablo Maximiliano Ynsfran, Bachiller en Ciencias y Letras, Escribano Público, Corresponding Member of the Spanish Academy, *Visiting Professor, Institute of Latin-American Studies; Visiting Professor of Government*.¹⁰⁰

Wilfred Dunbar Webb, Ph.D., LL.D., *Lecturer in Government; Research Assistant, Bureau of Municipal Research*.¹⁰¹

Degree Requirements

Specific prerequisites and requirements.—A student desiring to major in government for the degree of Master of Arts should read the general requirements of The University of Texas for this degree (pp. 31 to 34). Thereafter he should consult the instructor with whom he expects to write the thesis.

A student majoring in government for the master's degree may count not more than nine semester hours of junior work on the degree, of which not more than three semester hours may be in the major.

A student who plans to become a candidate for the degree of Doctor of Philosophy with the major in government is subject to the general requirements of the University (pp. 25 to 28) and to the following:

1. The candidate's major and first minor are to be selected from the following fields of government: (1) political theory, (2) comparative government, (3) American government: politics, (4) public administration, (5) international relations, (6) public law.
2. The second minor may be selected from any other social science, or any other field approved by the Department of Government and the Dean of the Graduate School.
3. A student will be admitted to candidacy when he has passed a preliminary examination covering the six fields of government listed above. In no case will this examination be given later than October of the academic year in which the candidate expects to take his final examination for the degree.

⁹⁸Absent on leave for the second semester of 1942-1943 and for the session of 1943-1944.

⁹⁹Appointment for the second semester of 1941-1942 and for the session of 1942-1943.

¹⁰⁰Appointment as *Visiting Professor of Government* for 1943-1944 only; appointment as *Lecturer, Institute of Latin-American Studies*, for the second semester of 1941-1942; for 1942-1943, as *Professor, Institute of Latin-American Studies*; for 1943-1944, as *Visiting Professor, Institute of Latin-American Studies; Visiting Professor of Government*; for 1944-1945, as *Visiting Professor and Research Associate, Institute of Latin-American Studies*; for 1945-1946, as *Visiting Professor of Romance Languages; Visiting Professor of Business Administration; Lecturer in Law*.

¹⁰¹Appointment as *Research Assistant* effective September 1, 1944; appointed as *Lecturer in Government* for the Winter Semester of 1945-1946.

4. After admission to candidacy the student, under the direction of his supervising committee, will follow the general requirements of the University. The final written and oral examinations will be limited to the fields of the major, the first minor, and the second minor.

Junior Courses

321. American State Government.—National-state relations; development of principles and forms of state government; state constitutions; constitutional conventions; judicial administration; the legislature. Special reference to Texas. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Calkins.

322. American State Administration.—Principles of public administration; the governor; administrative organization and reorganization; financial control; personnel administration; legislative and judicial control of administration. Special reference to Texas. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Calkins.

323. The Governments of Great Britain and the British Empire.—The government of Great Britain; principles of the cabinet system; dominion governments; the British colonial system. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Field. (Not given in 1943-1944.)

324. The Governments of Continental Europe and the Far East.—Existing and recent governmental structures and political institutions. Problems of post-war transition. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Field. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

325. Political Parties.—Character of the American party system, organization and leadership, the nominating process, campaigns, suffrage, elections, and the expression of public opinion. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Weeks.

326. Legislation.—Legislation as a process and a product; legislatures and other legislative authorities: their structure, powers, procedure, and political control. American legislative bodies stressed. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Weeks.

[**328. European Political Thought before 1700.**—Ancient, medieval, and modern concepts of government before 1700 as developed by the principal contemporary political writers and as reflected in political institutions. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Weeks. (Prior to 1943-1944 given as a senior course, Government 361; beginning in 1945-1946, to be returned to senior rank and given as Government 361.)]

330. International Politics.—Political principles, problems, and factors involved in the foreign policies and international relations of the power-states, with particular emphasis on nationalism, imperialism, and problems of a future world order. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Timm.

[331. *International Organization and Administration*.—Problems of war and peace; the machinery, procedure, and functions of public international institutions; agencies and methods to secure, maintain, and organize peace; projects for international federation. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Timm. (Given as a senior course, Government 367, in 1941-1942; not given in 1943-1944 or 1944-1945; to be given as Government 367 in 1945-1946 and 1946-1947.)]

332. *Latin-American Governments and Politics: Mexico and Central America*.—Constitutional development, governmental organization, and contemporary political problems of representative states, with special attention to Mexico. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Mecham. (Given as a senior course, Government 372, in 1941-1942.)

333. *American Foreign Relations: Latin America*.—Critical examination of the Latin-American policies of the United States: Monroe Doctrine, Pan-Americanism, Good Neighbor Policy; hemispheric defense, and relations with selected countries. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Mecham.

34. *American National Government*.—The first half may be taken as an independent course. Prerequisite: Government 10. Three lectures a week for two semesters. Mr. Patterson.

36. *International Law*.—Laws, customs, and practices generally observed in public international relations as shown in the determination of actual controversies, by international treaties and agreements, and as reflected in the comments of authoritative writers. Prerequisite: Government 10. Three lectures a week for two semesters. Mr. Timm. (Not given in 1943-1944 or 1944-1945.)

338. *Principles of American Democracy*.—Evolution of American democracy; fundamental principles of our democratic creed; ideas of important American writers and statesmen who have contributed to our democratic heritage. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Weeks. (Given for the first time in the Summer Session, 1942.)

339. *Current Foreign Political Philosophies*.—British liberal and democratic ideas; the heritage of the French Revolution; the sources and nature of the totalitarian philosophies. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Weeks. (Given for the first time in the Summer Session, 1942.)

342. *Foreign Policies of the United States: The Far East*.—Analysis of the origins and development of American political and economic policies in the Far East. Problems of the war and the peace in the Pacific. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Mecham. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

343. The Conduct and Control of American Foreign Relations.—Nature and control of the power to conduct foreign relations under the Constitution; subjects included: treaties, agreements, recognition, neutrality, and war. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Mecham. (Not given in 1943–1944.)

344. American Foreign Relations: Diplomatic Background of World War II and the Peace.—Critical examination of the recent and contemporary developments of American foreign policy, relating particularly to the outbreak of the present war and the problems of the peace. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Mecham.

345. Municipal Government.—Movement toward urbanization; position of the city; powers; liability; charter; electorate and party system; types of organization; program of reform. Special reference to Texas cities. Prerequisite: Government 10. Three lectures a week for one semester. Mr. MacCorkle. (Not given in 1941–1942.)

346. Municipal Administration.—Nature of administration; organization; personnel management; revenues and expenditures; purchasing; planning and zoning; public services. Illustrations are drawn from Texas cities. Prerequisite: Government 10. Three lectures a week for one semester. Mr. MacCorkle.

347. Inter-Latin-American Relations.—Political, economic, and cultural problems arising from the relationships among the Latin-American nations, with particular emphasis on the nations of South America. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Ynsfran. (Given for the first time in 1941–1942; not given in 1944–1945.)

348. Government Regulation of Industry before World War II.—Survey of the development of patterns of control over economic enterprise: anti-trust policy; labor policy; regulation of utilities, agriculture, and other industries. Prerequisite: Government 10 and Economics 312. Three lectures a week for one semester. Mr. Redford. (Not given in 1943–1944 or 1944–1945.)

349. Government Regulation of Industry during World War II and Reconversion.—Analysis of the controls of the War Production Board, War Food Administration, Office of Price Administration, War Manpower Commission, War Labor Board, and other federal agencies. Prerequisite: Government 10 and Economics 312. Three lectures a week for one semester. Mr. Redford. (Not given in 1943–1944 or 1944–1945.)

352. Municipal Corporations.—Creation and nature of municipal corporations; territorial incorporation; state and local problems; powers; zoning; liability; officers, agents, and employees; services. Special reference to Texas. Prerequisite: Government 10. Three lectures a week for one semester. Mr. MacCorkle. (Not given in 1941–1942 or 1942–1943.)

353. Rural Local Government.—The problem of rural local government; organization, functions, and relationships of county government; state-local relations; criticism and movement for reform. Special reference to Texas.

Prerequisite: Government 10. Three lectures a week for one semester. Mr. Burdine. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

[356. *American Political Issues*.—Consideration of important current issues in American politics. Prerequisite: Government 10. Three lectures a week for one semester. Mr. Hatton. (Given for the first time in 1941-1942; not given after 1941-1942.)]

[57. *American Constitutional Law*.—Prerequisite: Government 10. Three lectures a week for two semesters. Mr. Patterson. (Prior to 1944-1945 given as a senior course, Government 60; beginning in 1945-1946 to be returned to senior rank and given as Government 60.)]

359. *Municipal Intergovernmental Relations*.—Relationships between the city and other governmental units, including legislative and administrative relations; the role of the judiciary; problems and trends. Prerequisite: Government 10. Three lectures a week for one semester. Mr. W. D. Webb. (To be offered for the first time in 1945-1946.)

Senior and Graduate Courses

60. *American Constitutional Law*.—Prerequisite: Six hours of advanced government. Three lectures a week for two semesters. Mr. Patterson. (Given as a junior course, Government 57, in 1944-1945.)

361. *European Political Thought before 1700*.—Ancient, medieval, and modern concepts of government before 1700 as developed by the principal contemporary political writers and as reflected in political institutions. Prerequisite: Six hours of advanced government, or three hours of advanced government and Philosophy 29a or 29b. Three lectures a week for one semester. Mr. Weeks. (Not given in 1941-1942; given as a junior course, Government 328, in 1943-1944 and 1944-1945.)

362. *European Political Thought after 1700*.—Principal political writings and schools of political thought of the eighteenth, nineteenth, and twentieth centuries. Prerequisite: Six hours of advanced government. Three lectures a week for one semester. Mr. Weeks. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

363. *Administrative Law*.—Development of administrative law in Europe and the United States; powers and procedure of administrative agencies; law of public liability; rights of public servants. Prerequisite: Six hours of advanced government. Three lectures a week for one semester. Mr. Redford. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

365. *American National Administration*.—Administrative organization, personnel administration, financial administration, national-state and national-municipal coöperation. Selected national services: social security, housing, government banking, conservation, consumer protection, research and planning. Prerequisite: Six hours of advanced government. Three lectures a week for one semester. Mr. Redford. (Prior to 1941-1942 given as a junior course, Government 341; not given in 1942-1943, 1943-1944, or 1944-1945.)

366. American Political Thought.—Political ideas of the American people from colonial times to the present as reflected in institutions and the works of political writers and statesmen. Prerequisite: Six hours of advanced government. Three lectures a week for one semester. Mr. Weeks. (Prior to 1941–1942 given as a junior course, Government 329; not given in 1942–1943, 1943–1944, or 1944–1945.)

367. International Organization and Administration.—Problems of war and peace; the machinery, procedure, and functions of public international institutions; agencies and methods to secure, maintain, and organize peace; projects for international federation. Prerequisite: Six hours of advanced government. Three lectures a week for one semester. Mr. Timm. (Given as a junior course, Government 331, prior to 1941–1942 and in 1942–1943; not given in 1943–1944 or 1944–1945.)

370. Municipal Finance.—Municipal financial administration and organization; the budget; taxation; collection, custody, and disbursement of public funds; accounting and auditing; reporting; purchasing; debt: its purpose and limitations. Prerequisite: Six hours of advanced government. Three lectures a week for one semester. Mr. MacCorkle. (Not given in 1942–1943 or 1943–1944.)

371. Public Personnel Administration: Development and Relationships.—The personnel function as a function of management; history of civil service movement in the United States; organization for personnel administration; general problems in personnel administration; employee organization and welfare. Prerequisite: Six hours of advanced government. Three lectures a week for one semester. Mr. Burdine.

371K. Public Personnel Administration: Problems.—Specific problems of personnel administration: classification, recruitment, appointment, promotion, service ratings, dismissal, retirement, veterans' preference, and a career service. Prerequisite: Government 371; or six hours of advanced government, including Government 322, 341, or 346. Three lectures a week for one semester. Mr. Burdine. (To be offered for the first time in 1945–1946.)

[*372. Governments and Politics of Mexico and the Caribbean Area.*—The constitutional development, governmental organization, and contemporary political problems of representative states, with special attention to Mexico. Prerequisite: Six hours of advanced government, or History 46 or 47. Three lectures a week for one semester. Mr. Mecham. (Given as a junior course, Government 332, after 1941–1942.)]

373. The Governments and Politics of South America.—Governmental structure and politics of the principal South American countries. Prerequisite: Six hours of advanced government; or History 46, or 377K and 377L. Three lectures a week for one semester. Mr. Mecham. (Given for the first time in 1941–1942.)

380. Problems in American Foreign Relations: The Inter-American Security System.—The organization and role of the Inter-American System and its relation to the United Nations Organization. Prerequisite: Twelve hours of advanced government; or twelve advanced hours, including government and History 46 or 377K and 377L. Mr. Mecham. (Not given in 1943–1944 or 1944–1945; given also as Government 80a in 1942–1943.)

381. Problems in State Government and Administration.—Investigation of specific problems in state government and administration. Prerequisite: Twelve hours of advanced government, including Government 321, 322, 341, 346, 353, or 365; graduate standing or consent of instructor. Mr. Calkins.

382. Problems in International Law and Relations.—Selected problems in international law, international politics, and international organization and administration. Topics and hours for conferences will be arranged after consultation with the students. Prerequisite: Twelve hours of advanced government; graduate standing or consent of instructor. Mr. Timm. (Not given in 1942–1943, 1943–1944, or 1944–1945.)

383. Problems in American National Government and Constitutional Law.—Prerequisite: Twelve hours of advanced government, including Government 34, 57, or 60; consent of instructor. Mr. Patterson.

386. Seminar in Political Parties, Legislation, and Political Thought.—Prerequisite: Twelve hours of advanced government, including Government 325, 326, 328, 329, 338, 339, 361, 362, or 366; graduate standing or consent of instructor. Mr. Weeks. (Not given in 1941–1942, 1942–1943, or 1943–1944.)

388. Problems in Making and Executing Administrative Policy.—Prerequisite: Twelve hours of advanced government, including Government 322, 341, 346, 348, 349, 363, or 365; graduate standing or consent of instructor. Mr. Redford. (Not given in 1941–1942, 1942–1943, 1943–1944, or 1944–1945.)

389. Problems in Municipal Government and Administration.—Prerequisite: Twelve hours of advanced government, including Government 345 or 346, and 352 or 370; graduate standing or consent of instructor. Mr. MacCorkle. (Not given in 1942–1943; given as Government 89 in 1943–1944.)

390. Seminar in Public Personnel Administration.—Prerequisite: Twelve hours of advanced government, including Government 371; graduate standing or consent of instructor. Mr. Burdine. (Offered for the first time in 1941–1942 but not given until 1944–1945.)

391. Governments of the Eastern Hemisphere.—Prerequisite: Twelve hours of advanced government, including Government 323 or 324; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Field. (Given for the first time in 1941–1942; not given in 1942–1943 or 1943–1944.)

98. Thesis Course for the Master's Degree.—Prerequisite: Graduate standing in government; twelve hours of advanced government, six of which must be in the field of the thesis subject. Mr. Patterson, Mr. Weeks, Mr. Mecham, Mr. Timm, Mr. Burdine, Mr. Redford, Mr. MacCorkle, Mr. Field, Mr. Calkins.

99. *Thesis Course for the Degree of Doctor of Philosophy.*—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Patterson, Mr. Weeks, Mr. Mecham, Mr. Timm, Mr. Burdine, Mr. Redford, Mr. MacCorkle.

Economics 361. *Problems in Public Finance.*—May count as government if preceded by Government 10. See Department of Economics. Mr. Miller.

GREEK

See Department of Classical Languages, page 69.

DEPARTMENT OF HISTORY

Eugene Campbell Barker, Ph.D., LL.D., *Professor of American History*.¹⁰² Frederic Duncalf, Ph.D., *Professor of Medieval History*.¹⁰³

Charles William Ramsdell, Ph.D., *Professor of American History*.¹⁰⁴

Thad Weed Riker, Litt.D., *Professor of Modern European History*.

Charles Wilson Hackett, Ph.D., *Professor of Latin-American History; Chairman, Executive Committee, Institute of Latin-American Studies*.

Milton Rietow Gutsch, Ph.D., *Professor of English History*.

Walter Prescott Webb, Ph.D., *Professor of American History; Director of Research in Texas History*.¹⁰⁵

Ellis Merton Coulter, Ph.D., *Professor of American History*.¹⁰⁶

Henry Nash Smith, Ph.D., *Professor of American History; Professor of English*.¹⁰⁷

Rudolph Leopold Bieseile, Ph.D., *Professor of History*.

Carlos Eduardo Castañeda, Ph.D., LL.D., K.H.S., *Associate Professor of History; Latin-American Librarian*.¹⁰⁸

Horace Bailey Carroll, Ph.D., *Associate Professor of History; Assistant Director of Research in Texas History*.¹⁰⁹

¹⁰²Absent on leave for the Fall Term of 1944-1945 and 1945-1946; modified service, effective September 1, 1945.

¹⁰³Absent on leave for the Fall Term of 1945-1946.

¹⁰⁴Died July 3, 1942.

¹⁰⁵Appointment as *Director of Research in Texas History* effective September 15, 1942; absent on leave for 1942-1943.

¹⁰⁶Appointment effective February 1, 1943; absent on leave for 1945-1946.

¹⁰⁷Appointment as *Professor of American History* effective September 15, 1942; absent on leave for 1945-1946.

¹⁰⁸Absent on leave from September 1, 1943, to March 1, 1946.

¹⁰⁹Appointment effective September 15, 1942, as *Associate Professor of History and Acting Director of Research in Texas History*; for 1943-1944, appointed as *Lecturer in History* for the Spring Semester and as *Assistant Director of Research in Texas History* for the year; appointment as *Associate Professor of History and Assistant Director of Research in Texas History* effective September 1, 1944.

Truesdell Sparhawk Brown, M.A., *Assistant Professor of History*.¹¹⁰
Barnes Fletcher Lathrop, Ph.D., *Assistant Professor of History*.¹¹⁰

Holden Furber, Ph.D., *Associate Professor of History*.¹¹¹

Oliver Henry Radkey, Ph.D., *Assistant Professor of History; Special Instructor in Slavonic Languages*.¹¹²

Ione Petty Spears, M.A., *Assistant Professor of History*.¹¹³

William Reynolds Braisted, M.A., *Instructor in History*.¹¹⁴

Allan Burnett Cole, Ph.D., *Instructor in History*.¹¹⁵

Robert Crawford Cotner, M.A., *Instructor in History*.¹¹⁶

Pablo Maximiliano Ynsfran, Bachiller en Ciencias y Letras, Escribano PÚblico, Corresponding Member of the Spanish Academy, *Visiting Professor, Institute of Latin-American Studies*.¹¹⁷

Facilities for Graduate Study

The Department of History offers courses and exceptionally well developed facilities for research leading to the Master of Arts degree and to the degree of Doctor of Philosophy in the fields of American, Latin-American, English, Ancient, Medieval, and Modern European History. The more important materials available are mentioned in the following statements.

American History.—The Library of The University of Texas is well equipped for graduate work in various fields of American history. It is particularly strong in materials for the history of the South from 1800 to 1878, and for the history of the Southwest. It contains files of all the national historical journals, of most of the regional journals, and of the principal State and local periodicals. The collection of newspaper files is extensive and geographically representative; there are fairly adequate files from New York, Washington, Richmond, Cincinnati, Charleston, Augusta, New Orleans, Little Rock; and

¹¹⁰Absent on leave for the second semester of 1942-1943 and for the session of 1943-1944; appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1945.

¹¹¹Absent on leave, effective September 15, 1942.

¹¹²Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1943; appointment also as *Special Instructor in Slavonic Languages* for the Spring Semester of 1944-1945 and for the session of 1945-1946.

¹¹³Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1945.

¹¹⁴Appointment effective September 15, 1942; absent on leave, effective May 11, 1943.

¹¹⁵Resignation effective September 15, 1942.

¹¹⁶Absent on leave, effective April 1, 1942; military service.

¹¹⁷Appointment as *Lecturer, Institute of Latin-American Studies*, for the second semester of 1941-1942; for 1942-1943, as *Professor, Institute of Latin-American Studies*; for 1943-1944, as *Visiting Professor, Institute of Latin-American Studies*; *Visiting Professor of Government*; for 1944-1945, as *Visiting Professor and Research Associate, Institute of Latin-American Studies*; for 1945-1946, as *Visiting Professor of Romance Languages*; *Visiting Professor of Business Administration*; *Lecturer in Law*.

for Texas, reasonably adequate files from 1835 to 1876 and nearly complete files of the outstanding papers since 1876. The manuscript collections on Texas and the Southwest are large and are constantly growing by the acquisition of originals, transcripts, photostat and micro-film copies. Recently more than 300,000 pages of important historical manuscripts have been acquired in the form of 36 mm. micro-films. The collection of books, pamphlets, and manuscripts in the University Library, supplemented by those in the State Library and the several government departments, is the most complete in existence.

The University's equipment for the history of the South (liberally interpreted) is derived principally from the Littlefield Fund for Southern History. In 1914 Major George W. Littlefield gave the University a fund of \$25,000 for the purchase of materials for the "full and impartial study of the South and of its part in American history." In 1921 he left by will \$100,000 for the same purpose. The total amount of his gift is funded and yields about \$4,500 a year for the purchase of materials.

The Library is also well equipped for study of the State's part in the World War and has adequate background material on the general aspects of the war. By special appropriation the Board of Regents provided for the collection of all available material pertaining to the various activities of Texas during the World War, and for the collection in general of the more important books dealing with the war. Thousands of books and pamphlets have been collected and newspaper files for the period of the war secured from England, France, Germany, Mexico, and other countries. Of special note also are the collections of war posters and broadsides, official war photographs, war songs and music, and the files of this district covering the Council of Defense, the war loans, the Food Administration, etc.

Latin-American History.—The Library is well equipped for the study of the history of Spanish North America in general and of Mexico and the Spanish Southwest in particular. The García collection, consisting of some eleven thousand volumes, fifteen thousand pamphlets, and four hundred thousand folios of manuscripts, offers exceptional opportunities to the student of Mexican history. Of special interest are the archives of the counts of Penasco, 1,938 folios covering the years 1757 to 1847; of the historian Alamán, 430 folios (1810-1853); of Ignacio Comonfort, President of Mexico, 2,650 folios (1838-1863); of Gómez Farías, President of Mexico, 4,300 folios (1820-1856); of Vincente Guerrero and the Riva Palacio family, 26,000 folios (1810-1897). In addition to the resources of the García collection, the Library is in possession of some 100,000 pages of transcripts of documents in the archives of Spain and Mexico. Among the most notable recent additions to the Latin-American Collection is a portion of the library brought together by Joaquín García Icazbalceta (1825-1894), purchased by the University in 1937. This collection consists of 160 printed items, of which 49 were printed in Mexico before 1600; and approximately 50,000 pages of manuscript material, of which 18,000 pages are sixteenth century originals. In 1938 the University acquired the W. B. Stephens Collection, comprising 1,200 printed items and over 20,000 pages

of manuscript sources for the Spanish history of Texas, New Mexico, Arizona, and California.

The Library's Archives Collection includes, in the Bexar Archives, the largest and most comprehensive collection of manuscripts dealing with the territory now included in the State of Texas, being the Spanish and Mexican archives received from the Commissioners' Court of Bexar County in 1899. There are 80,795 documents or 205,500 pages, preserving the military, civil, and religious records of the Spanish province of Texas from 1699 to 1836. Next in importance are the Mexican transcripts consisting of 6,031 documents and 13,870 pages, dealing mainly with affairs in the Spanish province of Nueva Vizcaya and the Mexican state of Coahuila for the years 1708 to 1834.

For the study of Mexico and general Latin America, the University's equipment is equal to that of any library in the United States.

English History.—The University Library has most of the outstanding collections of published sources of English history, such as *Chronicles and Memorials of Great Britain and Ireland*; the publications of Camden Early English Text, Scottish Text, Selden, Surtees, Oxford Historical, Historical Manuscripts Commission, Royal Historical, Chetham, Naval Records, Royal Geographical, Hakluyt and Somerset Record Societies; the *Parliamentary Debates, Commons Journals, Lords Journals, British and Foreign State Papers, Calendars of State Papers, Annual Register, Parliamentary Papers*; the *Acts of the Privy Council, Proceedings and Ordinances of the Privy Council, State Trials, Law Court Reports*, and various collections of statutes.

In addition, the University has an excellent collection of source materials relating to the British Empire, especially India, such as *Court Minutes, Letters Received, Indian Factories, Charters, Proceedings* of the several Legislative Councils, *Acts and Ordinances*.

The newspaper collection contains long runs of the *London Times*, the *Globe*, and *Standard*, and shorter runs of the *Manchester Guardian* and other papers.

The Wrenn, Aitken, and Rare Books Collections are extremely valuable for the Stuart and early Hanoverian periods, containing hundreds of tracts, broadsides, and political pamphlets, and an extensive collection of newspapers from 1642 to 1730.

These source materials are supplemented by an excellent collection of memoirs, letters, autobiographies, and contemporary narratives. In addition the University Library has the standard secondary works and periodicals.

Ancient History.—In the Library of the University there are available practically all the narrative and literary sources for Greek and Roman history together with the *Corpus of Latin Inscriptions* and its supplement the *Notizie degli Scavi* and such guides to their use as the *Prosopographia Imperii Romani* and similar works for the Greek field.

In the way of secondary sources the Library contains the principal standard works with a large number of monographs and special studies and in addition complete files of many of the most important journals dealing with ancient history and classical philology.

Medieval History.—The Library contains many of the large collections of medieval sources. Migne, *Patrologiae, latina and graeca; Monumenta Germaniae historica; Rolls Series*; Bouquet, *Recueil des historiens des Gaules et de la France; Recueil des historiens des croisades; Corpus scriptorum historiae Byzantinae; Fontes rerum austriacarum*. The Library also contains complete files of some of the more important historical reviews.

The Library has ample material for graduate study in the field of the crusades. Materials are being collected on medieval Spain in order that graduate work may be offered in this background of Spanish-American history.

Modern European History.—The source material for modern European history is fullest on eighteenth century France, the Second Empire, and the diplomatic background of the Great War. The Library is particularly fortunate in possessing a number of the standard sets, among which may be noted: the *Transactions of the Russian Historical Society; Mémoires de la Société de l'Histoire de Paris et de l'Isle de France; Recueil des Instructions données aux ambassadeurs de la France, 1648-1789; Recueil des Traités* (Martens); *Documentos para la Historia de España; Das Staatsarchiv; Documents diplomatiques; Die Grosse Politik der Europaeische Kabinette; Journal officiel de la République française*; the published correspondence of Frederick the Great, Maria Theresa, Joseph II, Napoleon I, and Cavour, the collected works of Bismarck; the parliamentary debates of France (since 1789), the North German Confederation, the German Empire, and miscellaneous volumes for Italy and The Netherlands. The Library has also a complete file of the leading English, French, and German historical journals, and also the *Archiv für Oesterreichische Geschichte* (1848-1919).

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—Students who intend to specialize in history will find themselves seriously handicapped without a reading knowledge of French and German and, for some courses, Spanish or Latin. They should, therefore, as early as possible, acquire the linguistic foundation.

Candidates majoring in history for the Master of Arts degree are advised to take at least twelve semester hours of advanced courses in: (1) American history (United States, Latin-American), or (2) European history (English, ancient, medieval, modern). Six additional semester hours of advanced courses in the same or a different field of history are desirable.

In addition to the thesis, each student majoring in history for the master's degree will be expected to choose as much of his work at the senior and graduate level as is consistent with a good graduate program. In order to count a junior course on a graduate degree, the student must have the approval of both the Chairman of the Department and the Dean of the Graduate School prior to or at the time of registration.

The subject of the thesis should be selected with the advice of the supervising professor as soon as possible after the admission of the candidate. The supervising professor reserves the right to reject the thesis if in his judgment the candidate lacks the proper knowledge of English composition. A candidate should record the title of his dissertation with the Chairman of the Department immediately after it has been assigned.

A candidate for the degree of Doctor of Philosophy may major in either American history (United States or Latin-American) or European history (ancient, medieval, modern continental, English). If he majors in American history, European history should be his first minor; and if he majors in European history, American history should be his first minor.

A candidate for the Doctor of Philosophy degree must have as a prerequisite at least twelve semester hours of advanced courses in history and must meet the special requirements of the Department for admission to candidacy, as listed below:

1. Twenty-four semester hours of additional advanced work (not including the master's thesis) in the major field of history; eighteen semester hours of additional advanced work (not including the master's thesis) in the first minor of history; and twelve additional semester hours of history (not including the master's thesis) in either the major or the minor field of history or in any other field of history. At least twelve of the above required semester hours must be in courses of graduate rank.
2. Such other work as may be prescribed by the supervising professor and the committee.
3. The Doctor of Philosophy thesis.

A candidate for the degree of Doctor of Philosophy with history as the major should make a formal written application to the Chairman of the Department for admission to candidacy and arrange for a conference. The Chairman will, thereupon, provide the student with the necessary forms and printed instructions. The student should then obtain the consent of one member of the Graduate Faculty in history to act as a provisional adviser and register such choice with the Chairman of the Department. The adviser will be expected to advise the applicant on his choice of subject for a dissertation and the selection of his program of courses.

After the applicant has completed at least thirty-six hours of work for the degree, including either the master's thesis or six hours of seminar work, he shall be examined orally on three fields of his major and two of his first minor, the examining committee to consist of three representatives of his major and two representatives of his first minor, appointed by the Chairman of the Department. This examination shall be designed to test the applicant's capacity for analysis and criticism, and the examiners will assume a fair knowledge of the outstanding authorities in the fields selected. If the applicant

passes this examination on all five fields, he will be admitted to candidacy. The areas from which he will choose the aforesaid five fields are:

I. ANCIENT HISTORY

1. The Ancient Orient and Greece
2. Rome

II. MEDIEVAL HISTORY

1. 375-1200
2. 1200-1500

III. ENGLISH AND BRITISH HISTORY

1. Constitutional History
2. The Tudors and Stuarts
3. The British Empire
4. Eighteenth-Century British History
5. British History 1801-1885
6. British History 1885 to Present

IV. MODERN CONTINENTAL EUROPEAN HISTORY

1. The Seventeenth and Eighteenth Centuries
2. The French Revolution and Napoleon
3. The Expansion of Europe
4. The Near East from 1683
5. The Far East
6. Europe from 1870
7. Russia
8. Germany since 1519

V. AMERICAN HISTORY

1. To 1789
2. 1789-1860
3. 1860-1876
4. 1876 to the Present
5. The West

VI. LATIN-AMERICAN HISTORY

1. The Colonial Period
2. Since Independence
3. Spain and Portugal since 1492

When the candidate is ready for his qualifying examinations, he should confer with the Chairman of the Department about the date and place. The same procedure should be followed in the case of the final examinations. It is desirable that the applicant should pass the language tests required by the University before coming up for his qualifying examination.

It is expected that the subject of a student's dissertation will be either narrow enough to exploit intensively within its range and to cover with a reasonable degree of thoroughness, or of a nature that lends itself to a new

interpretation of knowledge for the most part already revealed. In either case the student would expect to be guided by the judgment of his preliminary adviser.

On completing his program of courses the candidate may expect to take written examinations on the fields indicated by these courses, though it shall be permissible for representatives of his major on the supervisory committee to waive this obligation in the case of the major, and likewise for representatives of the first minor to waive the obligation in the case of the first minor. The final written examination should be taken before the submission of the dissertation. If the dissertation is not submitted by the expiration of five years from the time of these written examinations, a second series of examinations over the same fields may be imposed at the discretion of the candidate's supervisory committee.

After the final oral examination the members of the supervisory committee will vote on the question of approving the candidate for his degree. Approval will be given unless there are as many as two dissenting votes.

Junior Courses

21a.i. The Roman Republic to the Time of Sulla.—Prerequisite: Twelve hours of history, or six hours of history and either six hours of at least sophomore rank in other social sciences or six hours of numbered courses in the classical languages. Three lectures a week for one semester. Mr. Brown. (Given as History 21a.i. for the first time in 1942-1943; not given in 1943-1944 or 1944-1945.)

21b.i. The Late Roman Republic and the Early Roman Empire.—Prerequisite: Twelve hours of history, or six hours of history and either six hours of at least sophomore rank in other social sciences or six hours of numbered courses in the classical languages. Three lectures a week for one semester. Mr. Brown. (Given as History 21b.i. for the first time in 1942-1943; not given in 1944-1945.)

321L. The History of the Ancient Mediterranean World: The Ancient East and Greece.—From the beginning of civilized life in Egypt and Babylonia through the history of the Greek states to the death of Alexander the Great. Considerable emphasis on the ideas of the period. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Brown. (Prior to 1944-1945 given as the first half of a sophomore course, History 11.)

321M. The History of the Ancient Mediterranean World: The Roman World.—Traces the formation of the Hellenistic states, their relations with Rome, and the establishment and decline of the Roman Empire. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Brown. (Prior to 1944-1945 given as the last half of a sophomore course, History 11; to be given as 321M for the first time in 1945-1946.)

[23. *European History since 1870*.—First semester: Background, causes, course, and results of the first World War; the Congress of Paris under two settlements. Second semester: The Russian Revolution and Communism; Fascism and breakdown of international order; the second World War. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for two semesters. Mr. Riker. (Beginning in 1944-1945, given as two courses, History 23a.i and 23b.i.)]

23a.i. *European History, 1870-1919*.—Background, causes, course, and results of the first World War; the Congress of Paris under two settlements. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Riker.

23b.i. *European History, 1919 to Present*.—The Russian Revolution and communism; fascism and breakdown of international order; the second World War. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Riker.

324K. *The Russian Revolution, 1890 to Present*.—The industrial revolution in Russia; rise of a proletariat; formation of political parties, their ideologies and programs; conflict with Tsarism; the World War; the overthrow of Tsarism and the Kerensky regime; the triumph of Bolshevism; civil and foreign war; the New Economic Policy (NEP); the intraparty struggle—Stalin vs. Trotsky; the Five Year Plans, significance and results; the new Russian Society; modifications of Bolshevism; expansion and war. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Radkey. (Given for the first time in 1943-1944.)

25a.i. *History of the United States: Formation and Growth of the Union, 1750-1800*.—The American Revolution; independence; formation and establishment of the Constitution; social and economic conditions; political parties and early party contests. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Barker. (Given as History 25a.i for the first time in 1941-1942.)

25b.i. *History of the United States: The Conflict of Sectionalism and Nationalism, 1800-1860*.—The growth of political democracy; territorial expansion; the westward movement; controversies between the industrial North and the agricultural South; the influence of social and economic interests upon political theory. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Barker. (Given as History 25b.i for the first time in 1941-1942.)

27Ka.i. History of Spain and Portugal from the Moorish Conquest to 1700.—Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Castañeda. (Given as History 27Ka.i for the first time in 1942-1943; not given in 1943-1944 or 1944-1945.)

27Kb.i. History of Spain and Portugal, 1700 to the Present.—Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Castañeda. (Given as History 27Kb.i for the first time in 1942-1943; not given in 1943-1944 or 1944-1945.)

329. Teachers' Course in History.—Same as Education 329. Prerequisite: Twelve hours of history. Three lectures a week for one semester. Miss Spears. (Not given in 1943-1944 or 1944-1945.)

31. The City State in the Ancient World.—Prerequisite: Twelve hours of history, or six hours of history and either six hours of at least sophomore rank in other social sciences or six semester hours of numbered courses in the classical languages. Three lectures a week for two semesters. Mr. Brown. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

35Ka.i. Social History of the United States to 1825.—Society on the eve of the Revolution; urban and rural influences; advances in science, music, art; religion; journalism; travel and communication; education. Prerequisite: Twelve hours of history; or six hours of history and six hours of at least sophomore rank in other social sciences; or History 15 and six hours selected from English 337, 338, 342, 377. Three lectures a week for one semester. Mr. Smith, Mr. Cotner. (Given as History 35Ka.i for the first time in 1941-1942; not given in 1943-1944 or 1944-1945.)

35Kb.i. Social History of the United States, 1825-1941.—Rise of the "common man;" American contributions to art, music, sculpture; reform movements; journalism; immigration; lawlessness; use of leisure; medicine and public health; education. Prerequisite: Twelve hours of history; or six hours of history and six hours of at least sophomore rank in other social sciences; or History 15 and six hours selected from English 337, 338, 342, 377. Three lectures a week for one semester. Mr. Smith, Mr. Cotner. (Given as History 35Kb.i for the first time in 1941-1942; not given in 1943-1944 or 1944-1945.)

37Ka.i. History of Central Europe to 1870 (Germany and Austria).—The country and peoples of Central Europe; The Holy Roman Empire; the Reformation; rise of the Hapsburg monarchy; rise of Brandenburg, Prussia; the Age of Enlightenment and the French Revolution; the settlement of Vienna; the Metternichian reaction; the revolution of 1848-1849; the leadership of Prussia; the unification of Germany. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Radkey. (Given as History 37Ka.i for the first time in 1943-1944; not given in 1944-1945.)

37Kb.i. History of Central Europe, 1870 to the Present.—The Bismarckian era; the industrial revolution in Central Europe; German society and politics; the trend toward war; stress and strain in Austria-Hungary; the World War, the peace settlement; the Weimar Republic; description of Austria-Hungary and the succession states; Hitler's Third Reich; the Greater Germany; the present war. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Radkey. (Given as History 37Kb.i for the first time in 1943-1944; not given in 1944-1945.)

[**37K. History of Central Europe from the Late Middle Ages to the Present.**—Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for two semesters. Mr. Radkey. (Not given in 1942-1943; beginning in 1943-1944, given as two courses, History 37Ka.i and 37Kb.i.)]

340K. Chinese History and Culture.—China's geography, peoples, and resources; the development of Chinese economic, political, cultural, and institutional life to the present. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Braisted. (Given for the first time in 1942-1943; not given in 1943-1944 or 1944-1945.)

341K. History and Civilization of Japan and the Southwest Pacific Area.—A survey of the history of Japan and the Pacific Southwest from the earliest times to the present. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Braisted. (Given for the first time in 1942-1943; not given in 1943-1944 or 1944-1945.)

42a.i. History of the Early Middle Ages.—Political, institutional, economic, and social development of medieval society down to the twelfth century. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Duncalf. (Given as History 42a.i for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

42b.i. History of the Later Middle Ages.—Development of medieval society from the twelfth century to the close of the Middle Ages. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Duncalf. (Given as History 42b.i for the first time in 1941-1942; not given in 1942-1943 or 1943-1944.)

43Ka.i. The Russia of the Tsars, 1480-1907.—Geographical and historical background; the eastern Slavs, ascendancy of Moscow; unification of Great Russia; unification of all the Russias; Russia and Western Europe; social, economic, and political institutions; emancipation and industrialization. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one

semester. Mr. Radkey. (Given for the first time in 1942-1943; not given in 1943-1944.)

43Kb.i. *The New Russia, 1907 to the Present.*—Decay of Tsarism, subversive movements; World War I; revolution and civil war; establishment of the Union of Soviet Republics; policies of the Soviet regime; the "Five-Year Plans"; economic geography of the New Russia; Soviet diplomacy; the new nationalism; westward expansion; the Russo-German war. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Radkey. (Given for the first time in 1942-1943; not given in 1943-1944.)

44a.i. *Contemporary British History, 1895-1919.*—Irish Home Rule; rise of the Labor Party; the Venezuelan question; changed relations with Turkey; the Boer War; far eastern developments; Indian nationalism; the dominions; social and economic reforms; the triple entente; the Great War. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Gutsch. (Given as History 44a.i for the first time in 1941-1942.)

44b.i. *Contemporary British History, 1919 to the Present.*—Imperial problems; evolution of dominion status; establishment of Irish Free State; Egyptian and Indian nationalism; Palestine; Anglo-Irish relations; postwar foreign policy; domestic politics; the Labor Party; the depression; the crises of 1931; the coalition government; depression remedies; political reorganization; Britain and World War II. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Gutsch. (Given as History 44b.i for the first time in 1941-1942.)

45a.i. *The American Civil War, 1860-1865.*—History 45a and 65a may not both be counted. The political crisis of 1860; secession; economic, social, political, and constitutional problems; diplomatic and military developments; the collapse of the Confederacy. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Coulter. (Not given in 1941-1942 or 1942-1943.)

45b.i. *Reconstruction, 1863-1877.*—History 45b and 65b may not both be counted. Reconstruction programs of Presidents Lincoln and Johnson; economic and social conditions, North and South; the radical congressional program; radical rule in the South and its overthrow. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Coulter. (Not given in 1941-1942 or 1942-1943.)

46a.i. History of South America to 1810.—Establishment of Spanish and Portuguese dominion in South America; narrative and political history to the eve of independence; colonial institutions; commercial system of Spain in South America; the background of the independence movement. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Hackett. (Given as History 46a.i for the first time in 1941-1942; not given in 1942-1943.)

46b.i. History of South America since 1810.—History 46b and Spanish 321 may not both be counted. Establishment of independence; narrative and political history of the independent South American nations, with emphasis upon the ABC countries. Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Ynsfran. (Given as History 46b.i for the first time in 1941-1942.)

54a.i. Late Georgian and Early Victorian England, 1806-1849.—The last coalition against Napoleon; the Peace of Vienna; the quadruple alliance, Canning's policy; parliamentary reform; social and economic reform; industrialization and free trade; social unrest; improvement of American relations. Prerequisite: Twelve hours of history; or six hours of history and either six hours of at least sophomore rank in other social sciences or six hours in nineteenth-century English literature. Three lectures a week for one semester. Mr. Gutsch. (Not given in 1941-1942, 1942-1943, or 1944-1945.)

54b.i. Middle and Late Victorian England, 1849-1895.—Palmerston's continental policy; the Indian mutiny; Chinese wars; Anglo-American controversies; further parliamentary reform; Gladstone and Disraeli; the Irish question. Prerequisite: Twelve hours of history; or six hours of history and either six hours of at least sophomore rank in other social sciences or six hours in nineteenth-century English literature. Three lectures a week for one semester. Mr. Gutsch. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

[*55. History of the United States since the Civil War.*—Prerequisite: Twelve semester hours in history, or six semester hours in history and six semester hours of courses of at least sophomore rank in other social sciences. Three lectures a week for two semesters. Mr. Webb, Mr. Carroll. (Beginning in 1943-1944, given as two courses, History 55a.i and 55b.i.)]

55a.i. History of the United States, 1860-1888.—Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Webb. (Given as History 55a.i for the first time in 1943-1944.)

55b.i. History of the United States, 1888 to the Present.—Prerequisite: Twelve hours of history, or six hours of history and six hours of at least sophomore rank in other social sciences. Three lectures a week for one semester. Mr. Webb. (Given as History 55b.i for the first time in 1944-1945.)

Senior and Graduate Courses

60Ka.i. Western Relations with the Far East, 1834-1895.—Intercourse with China and Japan; relations with Siberia, Korea, the Philippines, Indo-China, Siam, Malaysia, and the East Indies; the Sino-Japanese War, 1894-1895. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Cole. (Given as History 60Ka.i for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

60Kb.i. History of the Far East in Recent Times, 1895-1942. Nationalism and conflicting imperialism; paramountcy of Japan; economic, political, and cultural relations between East and West. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Cole. (Given as History 60Kb.i for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

61a.i. History of the United States: Topics, 1829-1850.—History 61a and 85a may not both be counted. Conflict of sectionalism and nationalism; Jacksonian democracy; the protective tariff; the second United States Bank; internal improvements and land policies; slavery. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Barker. (Not given in 1941-1942; given as History 61a.i for the first time in 1942-1943.)

61b.i. History of the United States: Topics, 1820-1860.—History 61b and 85b may not both be counted. Westward expansion; the Texas question and the Mexican war; growth of the sectional conflict. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Barker. (Not given in 1941-1942; given as History 61b.i for the first time in 1942-1943.)

62a.i. Introductory Seminar in Medieval History.—Prerequisite: Six hours of advanced history. The equivalent of three lectures a week for one semester. Mr. Duncalf. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

362K. Medieval Civilization.—The classical and Christian heritage; culture of the early Middle Ages; the twelfth-century Renaissance. Prerequisite: Six hours of advanced history, or twelve hours of history and either six advanced hours in other social sciences or Latin 31 or 81. Three lectures a week for one semester. Mr. Duncalf. (Formerly the first half of a junior course, History 22; given as History 362K for the first time in 1942-1943; to alternate with History 42a.i.)

362L. Renaissance Civilization.—Antecedents of the Renaissance in the late Middle Ages; Renaissance art, literature, and learning. Prerequisite: Six hours of advanced history, or twelve hours of history and either six advanced

hours in other social sciences or Latin 31 or 81. Three lectures a week for one semester. Mr. Duncalf. (Formerly the last half of a junior course, History 22; given as History 362L for the first time in 1942-1943; to alternate with History 42b.i.)

363. *The Old Regime*.—Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences or French. Three lectures a week for one semester. Mr. Riker. (Not given in 1941-1942 or 1944-1945.)

364. *British India*.—The Mogul Empire; European penetration; the English East India Company; its conflict with France; its territorial aggrandizement; constitutional developments; the Great Mutiny; Indian nationalism; contemporary relations. Prerequisite: Six hours of advanced history; or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Gutsch. (Not given in 1941-1942, 1942-1943, or 1944-1945.)

64a.i. *The British Empire, 1600-1783*.—Development of the empire in America and in India, with emphasis upon the constitutional and economic aspects. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences or in seventeenth- and eighteenth-century English literature. Three lectures a week for one semester. Mr. Furber. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

64b.i. *The British Empire, 1783 to the Present*.—Development of the empire overseas and in India since the American Revolution. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences or in modern English literature. Three lectures a week for one semester. Mr. Furber. (Given as History 64b.i for the first time in 1942-1943; not given in 1941-1942, 1943-1944, or 1944-1945.)

65a.i. *The American Civil War, 1860-1865*.—History 65a and 45a may not both be counted. The political crisis of 1860; secession; economic, social, political, and constitutional problems; diplomatic and military developments; the collapse of the Confederacy. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

65b.i. *Reconstruction, 1863-1877*.—History 65b and 45b may not both be counted. Reconstruction programs of Presidents Lincoln and Johnson; economic and social conditions, North and South; the radical congressional program; radical rule in the South and its overthrow. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

67K. Iberian Institutions.—Spain's political and governmental developments and the administration of its colonial empire. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for two semesters. Mr. Castañeda. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

68a.i. The Old South, 1783-1840.—Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Coulter. (Not given in 1941-1942; given as History 68a.i for the first time in 1942-1943.)

68b.i. The Old South, 1840-1861.—The movement into Texas and the Mexican War; attempts to settle sectional issues; the development of Southern nationalism; the diplomatic onset; political party disintegration; and the secession movement. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Coulter. (Not given in 1941-1942 or 1942-1943; given as History 68b.i for the first time in 1943-1944.)

369. *The American Frontier, 1800-1850.* History 369 and 258 may not both be counted. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Webb. (Not given in 1941-1942.)

69K. Topics in Greek and Roman History.—A reading course for advanced students. Prerequisite: A working knowledge of Greek or Latin and of French or German, and either six hours of advanced history or twelve hours of history and six advanced hours in other social sciences. The equivalent of three lectures a week for two semesters. Mr. Brown. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

71Ka.i. The Colonization of North America, 1565-1763.—History 71Ka and 341 may not both be counted. Discoveries and explorations; motives and methods of colonization; Spanish and French colonies in eastern North America; rise and fall of New Netherland, and New Sweden; establishment of English colonies by chartered companies, proprietors, and self-governing groups; early English colonial policy. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Bieseile.

71Kb.i. The Colonization of North America, 1565-1763.—History 71Kb and 341 may not both be counted. Non-English colonial institutions; the new English colonial policy; promotion and restriction of colonial industry; political, economic, social and institutional developments; the struggle for control of North America. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Bieseile. (Not given in 1943-1944 or 1944-1945.)

372M. Seminar in Historical Writing and Editing.—May be repeated for credit. A laboratory course in historical writing and editing, with emphasis on the fundamental techniques of research, followed by the preparation of articles of an encyclopedic character for the *Handbook of Texas*; editorial problems connected with the publication of historical periodicals, particularly with reference to the *Southwestern Historical Quarterly* and the *Junior Historian*; the preparation of copy for historical articles and books; book reviewing; indexing. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. The equivalent of three lectures a week for one semester. Mr. Webb, Mr. Carroll. (To be offered for the first time in 1945-1946.)

374K. Eighteenth-Century England: The Later Stuarts and Early Hanoverians, 1689-1763.—Survey of British history, 1689-1763, with special emphasis upon diplomatic, economic, and constitutional aspects. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences or in seventeenth- and eighteenth-century English literature. Three lectures a week for one semester. Mr. Furber. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

374L. Eighteenth-Century England: George III and William Pitt, 1760-1806.—Survey of British history, 1760-1806, with special emphasis upon diplomatic, economic, and constitutional aspects. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences or in seventeenth- and eighteenth-century English literature. Three lectures a week for one semester. Mr. Furber. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

375K. Tudor England, 1485-1603.—Functioning of "strong monarchy"; humanism; the reformation; social and economic instability; maritime activities; the Elizabethan literary outburst; defeat of the Armada and its consequences. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences or in sixteenth- and seventeenth-century English literature. Three lectures a week for one semester. Mr. Gutsch. (Formerly the first half of a junior course, History 24; given as History 375K for the first time in 1941-1942; not given in 1942-1943.)

375L. Stuart England, 1603-1689.—Divine Right monarchy; Puritanism; the Great Rebellion and the republic; the Stuart restoration; seventeenth-century society. Prerequisite: Six hours of advanced history or twelve hours of history and six advanced hours in other social sciences or in sixteenth- and seventeenth-century English literature. Three lectures a week for one semester. Mr. Gutsch. (Formerly the last half of a junior course, History 24; given as History 375L for the first time in 1941-1942; not given in 1942-1943.)

376K. History of the Great Plains and the Rocky Mountain Region.—History 376K and 356 may not both be counted. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in

other social sciences. English 342 may be substituted for three hours in other social sciences. Three lectures a week for one semester. Mr. Webb. (Not given in 1942-1943.)

377. *The Near Eastern Question*.—History 377 and 381K may not both be counted. Prerequisite: Six hours of advanced history. Three lectures a week for one semester. Mr. Riker. (Not given in 1941-1942 or 1942-1943.)

377K. *History of Mexico and Spanish North America, 1492-1763*.—Establishment of Spanish dominion in the West Indies, Central America, and Mexico; the northward advance of the Spanish frontier under the Hapsburgs and early Bourbons; institutional development and colonial policy of Spain. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Hackett. (Formerly the first half of a junior course, History 47; given as History 377K for the first time in 1942-1943.)

377L. *History of Mexico and Spanish North America, 1763 to the Present*.—New Spain under the later Bourbons; Spanish advances within the present United States; international rivalries of Spain and other European nations; the movement for independence; Spanish North America since independence, with emphasis upon Mexico. Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences. Three lectures a week for one semester. Mr. Hackett. (Formerly the last half of a junior course, History 47; given as History 377L for the first time in 1942-1943.)

379K. *The French Revolution and Napoleon*.—Prerequisite: Six hours of advanced history, or twelve hours of history and six advanced hours in other social sciences or in French. Three lectures a week for one semester. Mr. Riker. (Formerly a junior course, History 353; given as History 379K for the first time in 1942-1943.)

[80. *Democracies and Frontiers*.—Prerequisite: Twenty-four hours of history, or eighteen hours of history and six advanced hours in other social sciences; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Webb. (Not given in 1942-1943; beginning in 1943-1944, given as two independent three-hour courses, History 80a.i and 80b.i.)]

80a.i. *Democracies and Frontiers*.—Prerequisite: Twenty-four hours of history, or eighteen hours of history and six advanced hours in other social sciences; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Webb. (Given as History 80a.i for the first time in 1943-1944.)

80b.i. *The American Frontier, 1800-1850*.—Prerequisite: Twenty-four hours of history, or eighteen hours of history and six advanced hours in other social sciences; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Webb. (Given as History 80b.i for the first time in 1943-1944.)

381K. The Near Eastern Question.—History 381 and 377 may not both be counted. Prerequisite: Twenty-four hours of history, and graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Riker. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

382. The Crusades.—Origins of the Crusades; western participation; the Latin states and their civilization; the decline of interest in the Crusading movement; political, economic, social, and cultural aspects. Prerequisite: Twenty-four hours of history, or eighteen hours of history and Latin 31 or 81; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Duncalf. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

383. Seminar in Modern European History.—Prerequisite: Twenty-four hours of history and an easy reading knowledge of either German or French; graduate standing or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Riker. (Not given in 1942-1943.)

85a.i. The History of Texas, 1528-1835.—History 85a and 61a may not both be counted. The European approach to Texas; Spanish and French rivalry; Anglo-American colonization; the Mexican background; the development of the Texas Revolution. Prerequisite: Twenty-four hours of history and graduate standing or consent of instructor; Anthropology 323, Anthropology 325, English 342, Government 333, or a fluent reading knowledge of Spanish, French, or German may be substituted for from three to six hours of history. Three lectures a week for one semester. Mr. Barker. (Not given in 1942-1943 or 1944-1945.)

85b.i. The History of Texas, 1836-1850.—History 85b and 61b may not both be counted. The Texas Revolution and the establishment of the Republic of Texas; international relations of the Republic; the movement for recognition and annexation; domestic history of Republic and State; Texas in the sectional controversy over slavery and expansion. Prerequisite: Twenty-four hours of history and graduate standing or consent of instructor; Anthropology 323, Anthropology 325, English 342, Government 333, or a fluent reading knowledge of Spanish, French, or German may be substituted for from three to six hours of history. Three lectures a week for one semester. Mr. Barker. (Not given in 1942-1943 or 1944-1945.)

86a.i, 86b.i. Seminar in Latin-American History.—Prerequisite: Twenty-four hours of history and an easy reading knowledge of Spanish; graduate standing or consent of instructor. The equivalent of three lectures a week for two semesters. Mr. Hackett.

87. The Anglo-American Southwest, 1803-1836.—Prerequisite: Twenty-four hours of history, or eighteen hours of history and an easy reading knowledge of Spanish; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Barker. (Not given in 1941-1942 or 1943-1944.)

388. The South.—Prerequisite: Twenty-four hours of history; graduate standing or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Coulter. (Not given in 1942-1943 or 1944-1945.)

389. Seminar in United States History.—The making of the Federal Constitution. Political, social, and economic conditions preceding the formation of the Constitution; the work of the Federal Convention; motives of the framers; the process of ratification. Each student is expected to make an independent study of some topic bearing on the doctrine: *the economic interpretation*. Prerequisite: Twenty-four hours of history, or eighteen hours of history and six advanced hours in other social sciences; graduate standing or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Barker. (Given for the first time in the Summer Term, 1944.)

91a.i. Studies in American Thought to 1860.—Same as English 91Ka. Special problems in American intellectual history down to the Civil War, with emphasis upon the interaction between ideas and institutions: social, political, and economic. Prerequisite: Twenty-four hours of history, or eighteen hours of history and six advanced hours in other social sciences; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Smith. (Given for the first time in 1942-1943.)

91b.i. Studies in American Thought from 1860 to the Present.—Same as English 91Kb. Special problems in American intellectual history from the Civil War to the present, with emphasis upon the interaction between ideas and institutions: social, political, and economic. Prerequisite: Twenty-four hours of history, or eighteen hours of history and six advanced hours in other social sciences; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Smith. (Given for the first time in 1942-1943.)

94. The Constitutional History of England.—History 94 and 74 may not both be counted. Prerequisite: Twenty-four hours of history, or six hours of advanced history and six hours of advanced government or law; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Gutsch. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

394K. Seminar in British History.—Prerequisite: Twenty-four hours of history; graduate standing or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Gutsch. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

396. Historical Method and Historiography.—Prerequisite: Twenty-four hours of history; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Duncalf. (Not given in 1943-1944 or 1944-1945.)

98. Thesis Course for the Master's Degree.—Prerequisite: Twenty-four hours of history and graduate standing. Confer with the departmental chairman immediately after registration. Mr. Barker, Mr. Duncalf, Mr. Riker, Mr. Hackett, Mr. Gutsch, Mr. Webb, Mr. Biese, Mr. H. N. Smith, Mr. Coulter, Mr. Castañeda.

99. Thesis Course for the Degree of Doctor of Philosophy.—Prerequisite: Admission to candidacy for the doctor's degree. Confer with the departmental chairman immediately after registration. Mr. Barker, Mr. Duncalf, Mr. Riker, Mr. Hackett, Mr. Gutsch, Mr. Webb, Mr. Bieseley, Mr. H. N. Smith, Mr. Coulter, Mr. Castañeda.

DEPARTMENT OF HOME ECONOMICS

Mary Edna Gearing, *Professor Emeritus of Home Economics.*¹¹⁸

Jet Corine Winters, Ph.D., *Professor of Home Economics.*¹¹⁹

Gene Spencer, Ph.D., *Professor of Home Economics.*¹²⁰

Bess Hefflin, M.A., *Professor of Home Economics.*¹²¹

Jennie S. Wilmot, M.A., *Associate Professor of Home Economics.*¹²²

Rosalie S. Godfrey, M.A., B.S. in H.E., *Associate Professor of Home Economics; Business Director of University Residence Halls.*

Mildred Gertrude Spicer, Ph.D., *Associate Professor of Home Economics.*¹²³

Lucy Rathbone, M.A., B.S. in H.E., *Professor of Home Economics.*

Elizabeth Tarpley, M.A., *Professor of Home Economics.*¹²⁴

Anna W. Louise Janzen, M.A., *Associate Professor of Home Economics; Director of the University Commons.*

Mrs. Sarah Chaffin Brooks, M.A., *Assistant Professor of Home Economics.*¹²⁵

Mary Ernestine Goldmann, M.S. in H.E., *Assistant Professor of Home Economics.*

Josephine Helen Staab, M.A., *Assistant Professor of Home Economics.*¹²⁶

Helen Margaret Sands, M.A., *Assistant Professor of Home Economics.*¹²⁷

Ruth Elizabeth Leslie, Ph.D., *Assistant Professor of Home Economics.*¹²⁸

Sallie Beth Moore, M.A., *Assistant Professor of Home Economics.*¹²⁹

¹¹⁸Appointment changed from *Professor* to *Professor Emeritus*, effective September 15, 1942.

¹¹⁹Absent on leave for the Fall Terms of 1943-1944 and 1944-1945.

¹²⁰Appointment effective January 1, 1942; absent on leave for the Fall Term of 1945-1946.

¹²¹Absent on leave for the Fall Term of 1944-1945.

¹²²Absent on leave for the Fall Terms of 1944-1945 and 1945-1946.

¹²³Appointment effective September 15, 1942; resignation effective June 30, 1945.

¹²⁴Absent on leave for 1941-1942 and for the Fall Term of 1944-1945 and 1945-1946; appointment changed from *Associate Professor* to *Professor*, effective September 1, 1945.

¹²⁵Absent on leave for 1943-1944 and 1944-1945.

¹²⁶Absent on leave for 1945-1946.

¹²⁷Appointment effective September 15, 1942; resignation effective June 30, 1944.

¹²⁸Appointment changed from *Instructor* to *Assistant Professor*, effective September 15, 1942; absent on leave for 1944-1945; resignation effective September 1, 1945.

¹²⁹Appointment effective September 1, 1944; absent on leave for the Fall Term of 1945-1946.

Doris Lavinia Buchanan, M.A., B.S. in H.E., *Assistant Professor of Home Economics.*¹³⁰

Elizabeth May Brookshier, B.S. in H.E., *Assistant Professor of Home Economics; Resident Business Director of Andrews and Caruthers Dormitories.*¹³¹

Olive Betts, M.S. in Arch., *Instructor in Home Economics.*

Helen Norwood Deathe, B.S. in H.E., *Instructor in Home Economics; Assistant Resident Business Director of Littlefield Dormitory.*¹³²

Helen Rowena Marshall, M.S. in H.E., B.A., *Instructor in Home Economics.*¹³³

Grace Evelyn Sweatt, B.S., *Instructor in Home Economics; Resident Business Director of Brackenridge, Roberts, and Prather Halls.*¹³⁴

Facilities for Graduate Study

The library facilities for graduate work in home economics are good. In addition to the books and periodicals available through the Home Economics Department, access may be had to the natural sciences and technical libraries on the campus and to the Medical Library at Galveston. By drawing on these four different sources it is felt that the need for library material can be adequately met.

Graduate laboratories have been especially equipped for basal metabolism experiments, and dietary and digestion studies. A well-equipped animal room and a large rat colony furnish opportunity for investigations of the nutritive value of food by means of animal feeding experiments. Facilities for microbiological vitamin assays are also available. In the field of foods, economic and social aspects may be studied. Laboratory facilities for investigations related to cookery processes are available. A special laboratory has been equipped with a view to assisting students to prepare themselves for industrial work in new developments and utilization of food products. For testing in the textile-clothing field, an air-conditioned laboratory in which constant temperature and humidity can be maintained has been installed. This provides opportunity for testing according to standards accepted by the American Society for Testing Materials and the United States Bureau of Standards. The University Commons and three large dormitories for girls are under the supervision of the Home Economics Department; and these, together with a tea room which has been especially equipped for the use of students in institutional work, furnish ample opportunity for investigations in the institutional field.

¹³⁰Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1945; resignation effective October 31, 1945.

¹³¹Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1945.

¹³²Appointment effective September 1, 1943; appointment as *Instructor* effective September 1, 1944.

¹³³Appointment for 1944-1945; resignation effective December 29, 1944.

¹³⁴Appointment as *Instructor* effective November 1, 1944; appointment as *Resident Business Director* effective September 1, 1944.

Students wishing to carry on research and write their theses in the fields of methods of teaching home economics or administration of home economics may take a Master of Education degree with a major in home economics education and a minor in home economics (see College of Education for description of courses).

Degree Requirements

General prerequisites and requirements.—For the Master of Science in Home Economics degree see pages 42 and 43.

Specific prerequisites and requirements.—Students seeking the Master of Science in Home Economics degree should choose their major in one of the following groups:

1. Nutrition group: * Students choosing this group must take Home Economics 98, 80, and six additional semester hours chosen with the advice of the major professor. With a major in nutrition, the minor must include either Chemistry 842 or 442 and 252.
2. Clothing and Related Art group: Students choosing this group must take Home Economics 98, 64, and six additional semester hours chosen with the advice of the major professor.
3. Foods group: Students choosing this group must take Home Economics 98, 63, and six additional semester hours chosen with the advice of the major professor.
4. Institutional group: Students choosing this group must take Home Economics 98, 82, and six to twelve additional semester hours chosen with the advice of the major professor.
5. Food Technology group: * Students choosing this group must take Home Economics 98, 377, 388, 63a.i and three additional semester hours chosen with the advice of the major professor.

Junior Courses

[320. *Household Equipment.*—Principles and techniques involved in the selection and operation of modern mechanical equipment for the home. Prerequisite: Eighteen hours of home economics. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Miss Gearing. (Not given after 1941-1942.)]

321. *Household Administration.*—Application of scientific principles of home management, including residence in the home-management house. Prerequisite or parallel: Home Economics 322, and 342 or 311. Two lectures and the equivalent of four laboratory hours a week for one semester. Miss Goldmann.

*Students holding a bachelor's degree with a major in the natural sciences (except geology) may be admitted to candidacy for the Master of Science in Home Economics degree under Group 1, *Nutrition*, upon completion of twelve advanced hours in nutrition courses; and may be admitted to Group 5, *Food Technology*, upon completion of twelve advanced hours in home economics including Home Economics 324 and 332.

322. *Economic Problems of the Family*.—Sources of family income and economic and social factors influencing its distribution. Prerequisite: Economics 313 and junior standing in any college or school in the University. Three lectures a week for one semester. Miss Spicer.

324. *Advanced Foods and Cookery*.—Problems in food preservation. Experimental problems in food preparation. Prerequisite: Home Economics 308 and Chemistry 310. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Miss Wilmot, Miss Goldmann.

[325. *Nutrition*.—For premedical students. Principles of nutrition and their application to the prevention and treatment of certain diseases. Prerequisite: Twelve hours of chemistry and twelve hours of zoology. Three lectures a week for one semester. Miss Winters. (Not given after 1941-1942.)]

326. *Advanced Clothing Selection and Construction*.—Problems in dress-making and tailoring and in the selection of ready-made and custom-made clothing. Prerequisite: Twelve hours of home economics, including Home Economics 316. Two lectures and four laboratory hours a week for one semester. Laboratory fee, \$2. Miss Rathbone.

327. *Applied Dress Design and Draping*.—Draping and modeling of garments of original design with the objective of developing technique in handling different fabrics. Prerequisite: Home Economics 326. Two lectures and four laboratory hours a week for one semester. Laboratory fee, \$2. Miss Rathbone.

328. *Advanced Textiles*.—Newer developments in the textiles industry; physical and chemical testing of fabrics; problems in buying textiles. Prerequisite: Home Economics 305, Economics 313, and Chemistry 310. Two lectures and four laboratory hours a week for one semester. Laboratory fee, \$2. Miss Tarpley.

331. *Advanced Costume Design*.—Advanced work in costume design with emphasis upon creative designing. Prerequisite: Twelve hours in design or clothing, including Home Economics 302, 305, and 316. Two lectures and four laboratory hours a week for one semester. Laboratory fee, \$2. Mrs. Brooks.

332. *Food Economics*.—Economic problems as they apply to the distribution of food. Problems of the consumer in selecting food offered by the market. Prerequisite: Economics 313 and eighteen hours of home economics, including Home Economics 308. Two lectures and four laboratory hours a week for one semester. Laboratory fee, \$2. Miss Wilmot.

333. *Child Development*.—Home Economics 333 and 319K may not both be counted. Physical and psychological development of the young child. Observation in the Nursery School. Prerequisite: Junior standing and twelve hours of home economics. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Miss Moore, Miss Marshall.

334. Large Quantity Food Preparation and Service.—Practical problems in menu-making and in selecting and serving meals to large groups, with practice in the institution management laboratory. Prerequisite: Home Economics 318 or 318K, and credit or registration for Home Economics 342 and Business Administration 11a. One lecture and the equivalent of six laboratory hours a week for one semester. Laboratory fee, \$2. Miss Deathe.

[*339. Interior Decoration and Furnishing.*—Individual furnishing problems of the small and medium-sized home. Prerequisite: Home Economics 303 and 313 and Art 10. Two lectures and four laboratory hours a week for one semester. Laboratory fee, \$2. Miss Betts. (Not given after 1941-1942.)]

340. Institution Housekeeping, Furniture, and Furnishing.—Arrangement and care of building; use of blueprints; organization of housekeeping, including personnel; selection, purchasing, use, and care of furniture, furnishings, and cleaning outfit. Prerequisite: Home Economics 305, 313, 332, and three additional hours of advanced home economics. Two lectures and the equivalent of four laboratory hours a week for one semester. Laboratory fee, \$2. Miss Brookshier.

341. Home Demonstration Problems.—The home demonstration program. Observations and laboratory practice. Prerequisite: Eighteen hours of home economics, including Home Economics 308; credit or registration for Economics 313. Two lectures and four laboratory hours a week for one semester. Laboratory fee, \$2. Miss Wilmot.

342. Dietetics and Nutrition.—Home Economics 342 and 311 may not both be counted. The chemistry, physiology, and economics of normal nutrition. Prerequisite: Home Economics 308 and Chemistry 311. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Miss Winters, Miss Leslie.

344. Advanced Nutrition.—Further study of dietary principles and their applications. Prerequisite: Home Economics 342. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Miss Winters, Miss Leslie.

345. Advanced Large Quantity Cookery and Marketing.—Principles and practical application of large quantity food preparation and marketing, with practice in the University Commons. Prerequisite: Twelve hours of home economics, including Home Economics 334. Two lectures and the equivalent of three laboratory hours a week for one semester. Laboratory fee, \$2. Miss Janzen.

46. Interior Design.—Floor plans, interior elevations, and other architectural features, including wood and wall finishes in relation to the selection and arrangement of furniture. Prerequisite: Home Economics 303 and 313, Architecture 204H, and Art 2, 310, and 314. Two lectures and four laboratory hours a week for two semesters. Laboratory fee, \$4. Miss Betts.

347. Economic and Social Problems in Homemaking.—Designed to assist trained home economists in adapting their knowledge to the needs and interests of families on limited incomes. Special consideration of problems of groups that are being reached through various government agencies dealing with home and family life. Prerequisite: Sociology 310 and Home Economics 322. Three lectures a week for one semester. Miss Spicer. (Not given in 1941-1942 or 1942-1943.)

349. Health and Physical Growth of the Child.—A study of physical development from the pre-natal period through six years, with special reference to health as promoted in the home and Nursery School. Prerequisite: Home Economics 311 or 342, Home Economics 333, and Physiology 6. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Miss Moore. (Given for the first time in 1944-1945.)

Education 27. Special Methods and Student-Teaching in Home Economics.—See Department of Curriculum and Instruction, College of Education. Miss Heflin, Miss Staab, Miss Buchanan.

Education 27K. Special Methods and Student-Teaching in Nursery School.—See Department of Curriculum and Instruction, College of Education. Miss Moore.

Education 337. Organization and Administration of Home Economics.—See Department of Educational Administration, College of Education. Miss Heflin, Miss Staab.

Senior and Graduate Courses

361. Consumer Problems.—The present-day market as it affects the consumer in the purchase of goods and services. Prerequisite: Economics 313 and six hours of advanced home economics. Three lectures a week for one semester. Miss Spicer.

63a.i, 63b.i. Problems in Food.—Group and individual problems connected with foods. Prerequisite: Six hours of advanced home economics, including Home Economics 342, and credit or registration for Home Economics 324. Two lectures and four laboratory hours a week for two semesters. Laboratory fee, \$4. Miss Wilmot. (Not given in 1941-1942.)

64a.i. Advanced Problems in Clothing.—Pattern study—adaptation, making, and grading. Prerequisite: Six hours of advanced clothing or costume design, including Home Economics 326. Three hours of lecture and discussion a week for one semester. Laboratory fee, \$2. Miss Tarpley. (Not given in 1944-1945.)

64b.i. Advanced Problems in Textiles.—Special testing problems in the field of textiles. Readings and reports. Prerequisite: Home Economics 326 and 328. Three hours of lecture and discussion a week for one semester. Laboratory fee, \$2. Miss Tarpley. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

366. *Advanced Child Development.*—Advanced study of child development. Additional experience and observation in the Nursery School. Survey of literature relating to the young child. Prerequisite: Home Economics 333. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Miss Moore.

367. *Readings in Nutrition.*—Outstanding contributions in the field of nutrition. Readings and reports. Prerequisite: Home Economics 342 and 344. Two hours of reports and discussion a week for one semester. Miss Winters, Miss Leslie.

368. *Advanced Nutrition in Disease.*—Home Economics 368 and 323 may not both be counted. Dietary problems involved in abnormal metabolic conditions. Prerequisite: Home Economics 342 and 344. Three hours of reports and discussion a week for one semester. Miss Winters, Miss Leslie.

[371. *Institution Administration.*—Policies, duties, and problems of institution administrators. Prerequisite: Home Economics 332 and 345. Two lectures and the equivalent of four laboratory hours a week for one semester. Laboratory fee, \$2. Miss Janzen. (Not given after 1943-1944.)]

371K. *Institutional Practice.*—Supervised experience in one or more of the campus institutional units. Prerequisite: Twelve hours of institutional administration courses, including Home Economics 373, and 340 or 367. One hundred and sixty hours of practice and conference for one semester. Miss Godfrey, Miss Janzen. (Given for the first time in 1944-1945.)

373. *Institution Organization and Management.*—The organization and management of residence halls, cafeterias, lunchrooms, tearooms, hospitals, etc. Prerequisite: Home Economics 345. Three lectures a week for one semester. Miss Sweat.

74. *Creative Crafts in the Home.*—Constructive application of design to home crafts, including decorative textiles, block printing, stencils, dyeing, furniture refinishing, and design and decoration of furniture accessories. Prerequisite: Home Economics 46. Two lectures and four laboratory hours a week for two semesters. Laboratory fee, \$4. Miss Betts.

75. *Advanced Interior Decoration and Furnishing.*—Color and design as applied to textiles, furniture selection, and accessories. Period and contemporary designs and furniture of distinctive character are equally emphasized. Prerequisite: Home Economics 46. Two lectures and four laboratory hours a week for two semesters. Laboratory fee, \$4. Miss Betts.

376. *Textile and Clothing Economics.*—Home Economics 376 may not be counted by a student who received credit for Home Economics 326 prior to September, 1941. Economic problems of the consumer related to the production and distribution of clothing and textiles. Prerequisite: Economics 313 and six hours of advanced home economics, including Home Economics 326. Three lectures a week for one semester. Miss Tarpley. (Given for the first time in 1941-1942.)

377. Problems in Food Technology.—Preservation and utilization of available Texas food products. Prerequisite: For home economics majors, twelve hours of advanced foods and/or nutrition, including Home Economics 324; for majors in bacteriology, botany, chemistry, or physics, twelve advanced hours in their major field and twelve hours in one or more related sciences. Registration in Home Economics 324 is recommended. Two lectures and four laboratory hours a week for one semester. Laboratory fee, \$2. Miss Spencer. (Given for the first time in 1942-1943.)

377K. Advanced Institution Equipment.—Materials, construction and manufacture, installation and use of equipment used in institutions. Prerequisite: Home Economics 345. Three lectures a week and field trips, for one semester. Miss Janzen. (Offered for the first time in 1944-1945, but not given.)

[*378. Laboratory in Child Development.*—A special laboratory course in child development with special emphasis on supervised participation in nursery school. Prerequisite: Six hours of advanced home economics, including Home Economics 333; or, for majors in elementary education or psychology, six advanced hours of elementary education; or, for sociology majors, six advanced hours of sociology, including Sociology 320. Registration for Home Economics 366 is recommended. One lecture and an average of eight hours at the Nursery School a week for one semester. Laboratory fee, \$2. Miss Sands. (Given for the first time in the Summer Term, 1943; not given after 1943-1944.)]

80a.i, 80b.i. Research in Nutrition.—Prerequisite: Degree of Bachelor of Science in Home Economics with major in nutrition, or its equivalent. Laboratory fee, \$4. Miss Winters. (Not given in 1942-1943 or 1943-1944.)

381. Seminar in Nutrition.—Prerequisite: Degree of Bachelor of Science in Home Economics with major in nutrition, or its equivalent. One two-hour seminar period a week for one semester. Miss Winters. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

82. Seminar in Institution Management.—Prerequisite: Degree of Bachelor of Science in Home Economics with major in institution management, or its equivalent. One two-hour seminar period a week for two semesters. Miss Godfrey.

383. Seminar in Nutrition.—Prerequisite: Degree of Bachelor of Science in Home Economics with major in nutrition, or its equivalent. One two-hour seminar period a week for one semester. Miss Winters. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

84a.i, 84b.i. Problems and Practice in Institution Management.—For students appointed to institution administration fellowships, or students approved by the Chairman of the Department for independent advanced work on special problems. Prerequisite: Degree of Bachelor of Science in Home Economics with major in institution management, or its equivalent. The equivalent of two lectures and three laboratory hours a week for two semesters. Miss Godfrey, Miss Janzen. (Given also as Home Economics 384 in 1941-1942 and 1942-1943.)

387. Research in Social and Economic Problems of the Family.—Selected fields of research dealing with social and economic problems of home and family life; i.e., housing standards and cost of living studies on different income levels, etc. Prerequisite: Bachelor of Science in Home Economics degree or its equivalent, and a minimum of fifteen hours in the social sciences, including economics and sociology. Miss Spicer. (Given for the first time in 1941-1942; not given in 1943-1944 or 1944-1945.)

388. Advanced Problems in Food Technology.—Industrial methods of preservation of specific Texas food products; their packaging and storing. Prerequisite: Home Economics 377; graduate standing or consent of instructor. Miss Spencer. (Given for the first time in 1942-1943; not given in 1943-1944.)

389. Thesis Course for the Master's Degree.—Prerequisite: Eighteen hours of advanced home economics; graduate standing. Miss Winters, Miss Spencer, Miss Wilmot, Miss Godfrey.

Education 386. Problems in Teaching Secondary Home Economics.—See Department of Curriculum and Instruction, College of Education. Miss Staab.

Education 390. Materials and Methods for Adult Home Making Courses.—See Department of Curriculum and Instruction, College of Education. Miss Heflin.

Education 393. Seminar in Home Economics Education.—See Department of Curriculum and Instruction, College of Education. Miss Heflin, Miss Staab.

Education 98. Thesis Course for the Master's Degree.—Students in home economics education register for Section 6 of this course. See Department of Curriculum and Instruction, College of Education. Miss Heflin.

ITALIAN

See Department of Romance Languages, page 161.

DEPARTMENT OF JOURNALISM

Paul Jennings Thompson, B.J., M.B.A., *Professor of Journalism.*

DeWitt Carter Reddick, Ph.D., B.J., *Professor of Journalism.¹³⁵*

Granville Price, M.A., *Associate Professor of Journalism.¹³⁶*

Ellsworth Prouty Conkle, Ph.D., *Associate Professor of Drama.¹³⁷*

¹³⁵Absent on leave for the first semester of 1941-1942; appointment changed from *Associate Professor to Professor*, effective February 1, 1942.

¹³⁶Appointment changed from *Assistant Professor to Associate Professor*, effective September 1, 1945.

¹³⁷Absent on leave for the Spring Semester of 1944-1945.

Degree Requirements

General prerequisites and requirements.—For the Master of Journalism degree see page 38.

Advanced courses in journalism may be counted as a minor for the degree of Master of Education but not for the Master of Arts degree. Students must conform to the requirements in regard to rank of courses as specified under the Master of Education degree.

Junior Courses

320. Advanced Reporting and Ethics of Journalism.—Continuation of news writing practice under direction of laboratory supervisor; classroom discussion of problems of reporting, editing, and publishing; and an examination of the obligations of the competent journalist. Prerequisite: Journalism 12. Three lectures and four laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Thompson.

24. News Editing.—Instruction in copyreading, headline writing, and newspaper make-up. Prerequisite: Journalism 12. Three lectures and four laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Price.

325. Newspaper Illustrations.—Pictures as news; rapid transmission of pictures; picture staff organization; newspaper photographic equipment; retouching and engraving techniques; rotogravure, offset, and color; related fields and trends. Prerequisite: Physics 313. Three lectures a week for one semester. Mr. Price. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

326. Critical Writing for Newspapers.—Techniques, practice, and criticisms of special types of newspaper writing, especially book reviews, movie criticisms, and reporting of musical concerts. Prerequisite: Journalism 320. Three lectures a week for one semester. Mr. Price. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

327. Feature Story Writing.—Procedure in gathering material for feature stories, with stress on newspaper articles; analysis of reader appeal; study of feature story structure; development of style by practice in writing feature stories. Prerequisite: Journalism 12. Three lectures a week for one semester. Mr. Reddick.

29a.i, 29b.i. The Press and Contemporary Affairs.—Explanation and interpretation of current events as a function of the press; critical analysis of contemporary problems. Prerequisite: Junior standing. Three lectures a week for two semesters. Mr. Price.

333. Public Relations.—Fields of public relations; principles and methods of building good-will, securing publicity; processes of public opinion; analysis of media; public relations for higher education, commercial institutions, public welfare organizations, etc. Prerequisite: Journalism 12. Three lectures a week for one semester. Mr. Reddick. (Not given in 1941-1942.)

336. Printing Procedure.—Adaptability of various forms of printing. Fundamentals of good typography. Readability of type under different conditions. Mechanical equipment used for printing. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Price. (Given for the first time in 1941-1942.)

340. Fundamentals of Advertising.—Same as Business Administration 340. Relationship of advertising to other business functions; economic and social influence of advertising; study of campaigns, appropriations, and media; survey of activities of those engaged in advertising work. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Thompson.

341. Radio Continuity Writing.—Preparation of types of commercial and sustaining continuity. Emphasis on study of demands of advertisers and sponsors and the writing of radio advertising copy. Prerequisite: Speech 318K or 18Ka, and junior standing. Three lectures a week for one semester. Mr. Conkle. (To be offered for the first time in 1945-1946.)

342. Writing of Advertising Copy.—Same as Business Administration 342. Instruction and practice in writing various types of advertising copy; practice in drawing layouts; discussions of the problems of typographical reproduction. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Thompson.

343. Newspaper Advertising Problems.—Devoted primarily to instruction in advertising salesmanship; other subjects considered are advertising rate structures, newspaper advertising make-up, and procedure in newspaper advertising departments. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Thompson.

344. Comparative Journalism.—Survey of the place of journalism in the modern world; comparison of important American newspapers with newspapers of other countries; social and economic reasons for differences; international news communication, propaganda, censorship. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Reddick.

[*345. Law of the Press.*—Statutes and court decisions pertaining to libel and contempt of court; principles of freedom of the press; governmental regulations applying to copyrighting and second-class mailing privileges. Prerequisite: Journalism 12. Three lectures a week for one semester. Mr. Thompson. (Beginning in 1942-1943, given as a senior course, Journalism 360.)]

346. History of Journalism.—Survey of development of journalism, of social, economic, and political forces that have contributed to that development, and of the lives of eminent journalists; emphasis on American journalism. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Reddick.

349. Supervision of the High-School Newspaper.—Same as Education 349J. Problems of directing preparation of news stories, features, editorials, make-up, and circulation campaigns for the school newspaper; use of journalism in

school public relations; preparing a course of study for high-school journalism classes. Prerequisite: Junior standing. Mr. Reddick. (Given only in the summer.)

Business Administration 437. Principles of Marketing.—May count as journalism for those who also take Journalism 340, 342, and 343. See the Business Administration catalogue. Mr. E. G. Smith.

English 341. The Short Story.—May count as journalism. See Department of English. Mrs. Irvine, Mr. Boatright, Mr. Crow.

Senior and Graduate Courses

360. Law of the Press.—Statutes and court decisions pertaining to libel and contempt of court; principles of freedom of the press; governmental regulations applying to copyrighting and second-class mailing privileges. Prerequisite: Journalism 320 and three additional hours of advanced journalism. Three lectures a week for one semester. Mr. Thompson. (Prior to 1942-1943 given as a junior course, Journalism 345.)

365. Editorial Writing and Direction.—Place of the editorial in newspapers and magazines; editorial policies; subject matter, structure, and style of the editorial. Lectures, written work, individual conferences. Prerequisite: Journalism 12, 29a or 29b, and three additional hours of advanced journalism. Three lectures a week for one semester. Mr. Price.

368. Magazine Article Writing.—Journalism 368 and 27b may not both be counted. The writing of special articles for trade journals and magazines; study of free-lance markets; development of style. Prerequisite: Journalism 327 and three additional hours of advanced journalism. Three lectures a week for one semester. Mr. Reddick. (Not given in 1941-1942 or 1944-1945.)

373. Newspaper Management.—Methods of surveying newspaper fields; corporate organization; analysis of newspaper revenues and expenditures; budgets, accounting methods, and cost-finding systems; personnel problems; plant equipment and building plans; circulation problems. Prerequisite: Twelve hours of journalism; for business administration students majoring in general business accounting, senior standing. Three lectures a week for one semester. Mr. Thompson. (Not given in 1943-1944 or 1944-1945.)

98. Thesis Course for the Master's Degree.—Designed for candidates for the degree of Master of Journalism. Credit depends on the amount and quality of work done in research and in writing thesis, ordinarily six hours. Prerequisite: Graduate standing and at least twenty-four hours of journalism. Mr. Thompson, Mr. Reddick.

Business Administration 368N. Direct Mail Selling.—May count as journalism for those who also take Journalism 340, 342, and 343. See the Business Administration catalogue. Mr. E. G. Smith, Mr. Boyd.

LATIN

See Department of Classical Languages, page 69.

MATHEMATICS

See Department of Applied Mathematics and Astronomy, page 53, and Department of Pure Mathematics, page 157.

DEPARTMENT OF PHILOSOPHY

Albert Perley Brogan, Ph.D., *Professor of Philosophy; Dean of the Graduate School.*

Edwin Thomas Mitchell, Ph.D., *Professor of Philosophy.*

George Vincent Gentry, Ph.D., *Professor of Philosophy.*

David Louis Miller, Ph.D., *Professor of Philosophy.*¹³⁸

Pablo Maximiliano Ynsfran, Bachiller en Ciencias y Letras, Escribano Público, Corresponding Member of the Spanish Academy, *Visiting Professor, Institute of Latin-American Studies.*¹³⁹

Facilities for Graduate Study

In the field of philosophy opportunities for graduate work are offered in the history of philosophy, logic, epistemology, metaphysics, ethics, and theory of value. The Library is adequately equipped in these fields. Complete sets of the works of the classical philosophers are available, and commentaries are being constantly added. The Library subscribes regularly to the most important English, French, German, and American philosophical journals.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—A student who plans to major in philosophy for the master's degree should include Philosophy 29 in his undergraduate work. Minors may be selected from any of the departments of the College of Arts and Sciences or from the College of Education. For advice concerning the choice of his minor subjects the student should confer with the Chairman of the Department.

¹³⁸ Appointment changed from *Associate Professor to Professor*, effective September 1, 1945.

¹³⁹ Appointment as *Lecturer, Institute of Latin-American Studies*, for the second semester of 1941-1942; for 1942-1943, as *Professor, Institute of Latin-American Studies*; for 1943-1944, as *Visiting Professor, Institute of Latin-American Studies*; *Visiting Professor of Government*; for 1944-1945, as *Visiting Professor and Research Associate, Institute of Latin-American Studies*; for 1945-1946, as *Visiting Professor of Romance Languages*; *Visiting Professor of Business Administration*; *Lecturer in Law*.

A student majoring in philosophy for the master's degree may not count any junior courses in the major, but he may count as many as six semester hours of junior work in the minor.

Concerning the courses necessary to meet the requirements for a major or minor in philosophy for the doctor's degree, students are advised to consult the Chairman of the Department.

Junior Courses

[321. *Contemporary Latin-American Thought*.—Discussion of current trends in Latin-American thought. Prerequisite: Six hours of philosophy, or three hours of philosophy and three hours in other social sciences; and a reading knowledge of Spanish. Three lectures a week for one semester. Mr. Ynsfran. (Given for the first time in 1943-1944; not given after 1943-1944.)]

322. *Science and the Modern World*.—A sympathetic study of the effect of the physical sciences on current human institutions. The effect of the physical sciences on basic human attitudes in contemporary civilization. Prerequisite: Six hours of philosophy, or junior standing and six hours in the natural sciences or in mathematics. Three lectures a week for one semester. Mr. Miller. (Given for the first time in 1943-1944.)

325. *English Ethical and Social Philosophy*.—Survey of the main movements of English social philosophy from Hobbes to Mill, Spencer, and Hobhouse, with emphasis on the main topics of motivation, harmony and conflicts of interest, sanctions, individualism, utilitarianism, and liberalism. Prerequisite: (1) Six hours of philosophy, or (2) three hours of philosophy and three advanced hours in other social sciences, or (3) six hours of advanced economics or sociology. Three lectures a week for one semester. Mr. Brogan. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

327. *Contemporary Philosophy*.—Survey of contemporary currents of thought, with special emphasis on dialectical materialism, American pragmatism, neo-irrationalism, and the new humanism. Focuses on such questions as the nature of man, human destiny, man and the community, intellectual authority. Treatment is non-technical. Aim is to understand the major intellectual and moral issues faced by contemporary man as these are reflected in the writings of philosophers, theologians, cultural critics, and to contribute to the achievement of an informed and coherent perspective. Prerequisite: Philosophy 310 or 314, and three additional hours of philosophy or six advanced hours in the University. Three lectures a week for one semester. Mr. Gentry.

328. *Nineteenth Century Thought*.—Special emphasis on the rise of individualism and democracy as expressed in romanticism, evolutionism, positivism, humanitarianism, and labor movements. Prerequisite: Six hours of philosophy, or junior standing and three hours of philosophy or psychology with a grade of at least C. Three lectures a week for one semester. Mr. Miller.

29a.i. *History of Ancient and Medieval Philosophy.*—Survey of the development of philosophical thought from the classical Greek philosophy to the Renaissance, with emphasis upon its cultural bearing. Prerequisite: (1) Six hours of philosophy, or (2) three hours of philosophy and six advanced hours in the College of Arts and Sciences, or (3) one of the following: Education 25, Education 367, Government 361, Psychology 31. Three lectures a week for one semester. Mr. Mitchell.

29b.i. *History of Modern Philosophy.*—Survey of the development of philosophical thought from the Renaissance to the nineteenth century, with emphasis upon its cultural bearing. Prerequisite: (1) Six hours of philosophy, or (2) three hours of philosophy and six advanced hours in the College of Arts and Sciences, or (3) one of the following: Education 25, Education 367, Government 361, Psychology 31. Three lectures a week for one semester. Mr. Miller.

330. *Social Philosophy.*—Present lack of rational foundations; the prevailing distrust of reason; philosophies of irrationalism. The nature of reasonable judgments of value; historical philosophies of perfectionism; the comparative theory of value. The nature and function of ideals; the present conflict of ideals; social techniques for the rational resolution of conflicts. Illustrated by concepts and problems of freedom. Prerequisite: (1) Six hours of philosophy, or (2) three hours of philosophy and three advanced hours in other social sciences, or (3) six hours of advanced economics or sociology. May count as sociology if preceded by six hours of advanced sociology. Three lectures a week for one semester. Mr. Mitchell. (Not given in 1943-1944.)

[331. *Philosophies of War and Peace.*—Interpretations of nature, man, and society which glorify war (Fichte, Hegel, Jahn, Treitschke, Nietzsche, Spengler, Rosenberg) or which analyze the conditions of peace (Kant, James, Dewey, E. H. Carr). Prerequisite: (1) Six hours of philosophy, or (2) three hours of philosophy and three advanced hours in social science, or (3) six advanced hours in social science. Three lectures a week for one semester. Mr. Mitchell. (Not given in 1941-1942, 1942-1943, or 1944-1945; not to be given in 1945-1946 or 1946-1947.)]

335. *Post-Kantian Philosophy.*—Mainly German and British post-Kantian idealism and reaction against idealism. Especially Hegel, Schopenhauer, Nietzsche, Bradley, Bosanquet, G. E. Moore, Russell, James, Dewey. Prerequisite: Six hours of philosophy. Three lectures a week for one semester. Mr. Mitchell. (Given for the first time in Summer-Fall Semester, 1944.)

336. *Value.*—Studies in the nature of value, goodness, or welfare, and outlines of a general philosophy of valuation or criticism. Prerequisite: (1) Six hours of philosophy, or (2) three hours of philosophy and three advanced hours in other social sciences, or (3) six hours of advanced economics or sociology. May count as economics if preceded by six hours of advanced economics. Three lectures a week for one semester. Mr. Brogan. (Not given in 1941-1942 or 1942-1943.)

340. *Self and Nature.*—Introduction to the problem of mind and meaning. Prerequisite: (1) Six hours of philosophy, or (2) six hours of advanced courses in either psychology or the biological sciences, or (3) nine advanced hours in the social sciences. May count as psychology if preceded by six hours of advanced psychology. Three lectures a week for one semester. Mr. Gentry. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

351. *American Philosophy: Early American Period through the Nineteenth Century.*—Main trends of early American philosophical thought in relation to the religious, political, and social movements of the colonial and revolutionary periods; later developments and the growth of the "schools of philosophy" from the transcendentalist group down to the recent American representatives of the idealistic, pragmatic, and realistic schools. Prerequisite: Six hours of philosophy. Three lectures a week for one semester. Mr. Mitchell. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

352. *Survey of American Philosophy.*—Survey of the pragmatic movement; the ideas of Chauncey Wright, Charles Peirce, Oliver W. Holmes, William James, John Dewey, and G. H. Mead; relations between the various participants in the movement; the movement in relation to the intellectual climate of the period, especially the sciences; comparison of the movement with competing trends of thought. Prerequisite: Six hours of philosophy. Three lectures a week for one semester. Mr. Gentry. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

355. *The Symbolic Process.*—The relation between language and thought. Prerequisite: Six hours of philosophy; or six hours of advanced economics, psychology, or sociology. May count as economics, psychology, or sociology if preceded by six hours of advanced economics, psychology, or sociology, respectively. Three lectures a week for one semester. Mr. Gentry.

356. *Comparative Religion and Philosophy of Religion.*—Meaning and function of religion; genesis of religious ideas and practices; great world religions; religious belief and its validity; religious values in modern world. Prerequisite: (1) Six hours of philosophy, or (2) three hours of philosophy and three advanced hours in other social sciences, or (3) Psychology 351. Three lectures a week for one semester. Mr. Mitchell. (Not given in 1941-1942.)

359. *Intermediate Logic.*—Continuation of Philosophy 312. Prerequisite: (1) Philosophy 312 and three additional hours of philosophy, or (2) Philosophy 312 with a grade of at least *B* and junior standing, or (3) six hours of advanced pure or applied mathematics. Three lectures a week for one semester. Mr. Miller. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

Economics 327. *Comparative Economic Systems.*—May count as philosophy if preceded by six hours of advanced philosophy. See Department of Economics. Mr. Hale.

Psychology 31a.i, 31b.i. History of Modern Psychology.—May count as philosophy if preceded by six hours of advanced philosophy. See Department of Psychology. Mr. Klein.

Psychology 351. Social Psychology.—May count as philosophy if preceded by six hours of advanced philosophy. See Department of Psychology. Mr. Brown.

Senior and Graduate Courses

363. *Scientific Method.*—History and exposition of scientific method; analysis of fundamental concepts such as law, hypothesis, experimentation; emphasis on the relation of scientific concepts to sense data. Prerequisite: (1) Six hours of advanced philosophy, or (2) three hours of advanced philosophy and six advanced hours in other social sciences, or (3) nine advanced hours in the natural sciences. May count as psychology if preceded by six hours of advanced psychology. Three lectures a week for one semester. Mr. Miller. (Not given in 1942–1943, 1943–1944, or 1944–1945.)

365. *Seminar in Recent Philosophy.*—Topic to be selected. Prerequisite: Six hours of advanced philosophy; or three hours of advanced philosophy and six hours of approved advanced courses in the social sciences. The equivalent of three lectures a week for one semester. Mr. Gentry. (Not given in 1941–1942, 1942–1943, 1943–1944, or 1944–1945.)

[368. *Conference Course on Selected Topics.*—Selected reading and conference work under close supervision of instructor. Prerequisite: Six hours of advanced philosophy, or three hours of advanced philosophy and consent of instructor. The equivalent of three lectures a week for one semester. Mr. Mitchell, Mr. Gentry, Mr. Miller. (Given for the first time in the Summer Term, 1943; not to be given in 1945–1946 or 1946–1947.)]

370. *Seminar in Ethics.*—Topic to be selected. Prerequisite: Six hours of advanced philosophy; or three hours of advanced philosophy and six hours of approved advanced courses in the social sciences. May count as economics if preceded by nine hours of advanced economics. The equivalent of three lectures a week for one semester. Mr. Brogan.

380. *Seminar in Philosophy.*—Topic to be selected. Prerequisite: Twelve hours of advanced philosophy, or six hours of advanced philosophy and six hours of approved advanced courses; graduate standing or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Gentry. (Not given in 1942–1943 or 1944–1945; given as Philosophy 80 in 1941–1942.)

381. *Seminar in History of Philosophy.*—Topic to be selected. Prerequisite: Twelve hours of advanced philosophy, or six hours of advanced philosophy and six hours of approved advanced courses; graduate standing or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Brogan. (Not given in 1942–1943, 1943–1944, or 1944–1945.)

382. Seminar in History of Philosophy.—Topic to be selected. Prerequisite: Twelve hours of advanced philosophy, or six hours of advanced philosophy and six hours of approved advanced courses; graduate standing or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Mitchell. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

383. Seminar in Theory of Knowledge.—Topic to be selected. Prerequisite: Twelve hours of advanced philosophy, or six hours of advanced philosophy and six hours of approved advanced courses; graduate standing or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Miller. (Not given in 1941-1942, 1942-1943, or 1944-1945.)

385. Seminar in Theory of Value.—Topic to be selected. Prerequisite: Twelve hours of advanced philosophy, or six hours of advanced philosophy and six hours of approved advanced courses; graduate standing or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Brogan. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

90. Research in Philosophy.—Conference course for the study of advanced problems in philosophy and for training in thesis work. Prerequisite: Twelve hours of advanced philosophy and graduate standing. Mr. Mitchell, Mr. Gentry, Mr. Miller.

98. Thesis Course for the Master's Degree.—Prerequisite: Twelve hours of advanced philosophy and graduate standing. Mr. Brogan, Mr. Mitchell, Mr. Gentry, Mr. Miller.

Economics 366. Economic Forces.—May count as philosophy if preceded by nine hours of advanced philosophy. See Department of Economics. Mr. Ayres.

Psychology 60a.i. Systematic Psychology.—May count as philosophy if preceded by nine hours of advanced philosophy. See Department of Psychology. Mr. Perrin.

Psychology 360K. Systematic Psychology.—May count as philosophy if preceded by nine hours of advanced philosophy. See Department of Psychology. Mr. Perrin.

Sociology 364. Social Attitudes.—May count as philosophy if preceded by nine hours of advanced philosophy. See Department of Sociology. Mr. Gettys.

Sociology 79a.i, 79b.i. Advanced Social Theory.—May count as philosophy if preceded by nine hours of advanced philosophy. See Department of Sociology. Mr. Moore.

DEPARTMENT OF PHYSICS

John Matthias Kuehne, Ph.D., *Professor of Physics.*¹⁴⁰

Simpson Leroy Brown, Ph.D., *Professor of Physics.*

Arnold Romberg, Ph.D., *Professor of Physics.*¹⁴¹

¹⁴⁰Modified service, effective September 15, 1942.

¹⁴¹Absent on leave for 1941-1942; resignation effective June 15, 1942.

Charles Paul Boner, Ph.D., *Professor of Physics; Director of the Defense Research Laboratory.*¹⁴²

Malcolm Young Colby, Ph.D., *Professor of Physics.*

Darrell Stephen Hughes, Ph.D., *Professor of Physics; Consultant in Geophysics.*¹⁴³

Nathan Ginsburg, Ph.D., *Assistant Professor of Physics.*¹⁴⁴

Alvin Cushman Graves, Ph.D., B.S. in E.E., *Assistant Professor of Physics.*¹⁴⁵

Claris Jesse Sanders, M.A., *Assistant Professor of Physics.*¹⁴⁶

Walter Lewis Pondrom, Jr., M.A., *Instructor in Physics.*¹⁴⁷

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—A student majoring in physics for the master's degree may not count any junior courses in the major, but he may count as many as six semester hours of junior work in the minor.

Before admission to candidacy for the Doctor of Philosophy degree with physics as a major, students must have done advanced work in each of the main fields of physics—mechanics, heat, light, and electricity and magnetism—and must pass a preliminary examination set by the Department.

Mathematics or chemistry or electrical engineering will in general be the most suitable minors. A thorough preparation in mathematics is so essential to the pursuit of advanced work in physics that the amount of work required for a minor in mathematics may be regarded as practically indispensable.

Junior Courses

325. Elementary Electron Theory.—Prerequisite: Physics 812 and six hours of calculus. Counts as a senior course when preceded by six hours of advanced physics. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Colby.

326. Atomic Physics.—Prerequisite: Physics 325. Counts in the same manner as Physics 325. Three lectures a week for one semester. Mr. Colby.

¹⁴²Absent on leave from February 1, 1942, to September 1, 1945; appointment as *Director of Defense Research Laboratory* effective September 1, 1945.

¹⁴³Appointment effective November 1, 1945.

¹⁴⁴Appointment effective February 15, 1942, as *Instructor*; appointment changed to *Assistant Professor*, effective March 1, 1945.

¹⁴⁵Absent on leave, effective February 1, 1942.

¹⁴⁶Absent on leave for the first semester of 1941-1942; appointment changed from *Instructor* to *Assistant Professor*, effective September 15, 1942.

¹⁴⁷Resignation effective February 1, 1942; reappointment effective September 15, 1942.

433. *Optics*.—Prerequisite: Physics 812. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Kuehne.

34. *Theoretical Physics*.—Prerequisite: Physics 812 and six hours of calculus. Counts in the same manner as Physics 325. Three lectures a week for two semesters. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

335. *Elementary Mechanics*.—Prerequisite: Physics 812 and six hours of calculus. Counts in the same manner as Physics 325. Three lectures a week for one semester.

336. *Geophysics*.—Prerequisite: Physics 335 or a course in differential equations. Counts in the same manner as Physics 325. Three lectures a week for one semester. Mr. Pondrom. (Not given in 1941-1942 or 1942-1943.)

338. *Electron Tubes and Class A Amplifier Systems*.—Prerequisite: Six hours of calculus and credit or registration for Physics 352 or Electrical Engineering 320. Counts in the same manner as Physics 325. Two lectures and the equivalent of three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Boner. (Not given in 1941-1942.)

339. *Heat*.—Prerequisite: Physics 812 and six hours of calculus. Counts in the same manner as Physics 325. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

343. *Astrophysics*.—Prerequisite: Physics 433. Counts in the same manner as Physics 325. Three lectures a week for one semester. Mr. Kuehne. (Not given in 1941-1942 or 1942-1943.)

344. *Photographic Photometry*.—Prerequisite: Physics 433. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

352. *Audio and Radio Frequency Currents*.—Prerequisite: Physics 812 and six hours of calculus. Counts in the same manner as Physics 325. Three lectures a week for one semester. Mr. Brown.

Senior and Graduate Courses

360. *Electron Tube Circuits*.—Prerequisite: Physics 338 and 352. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Boner. (Formerly a junior course, Physics 340; given as Physics 360 for the first time in 1942-1943; not given in 1944-1945.)

361. *Electrical Measurements*.—Prerequisite: Six hours of advanced physics; for electrical engineering students, Electrical Engineering 320. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Sanders.

362. *Radio Frequency Electrical Measurements*.—Prerequisite: Physics 352 or Electrical Engineering 320, and Physics 338. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Brown. (Not given in 1944-1945.)

363. *Electroacoustics*.—Prerequisite: Physics 338, and Physics 352 or Electrical Engineering 320. Three lectures and two laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Boner. (Not given in 1941-1942 or 1944-1945.)

380. *Electric Waves*.—Prerequisite: Twelve hours of advanced physics, including Physics 352 and 362; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Brown. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

81. *Introduction to Modern Theories of the Structure of Matter*.—Prerequisite: Twelve hours of advanced physics, including Physics 325; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Kuehne. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

382. *Advanced Sound*.—Prerequisite: Physics 391; graduate standing or consent of instructor. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Boner. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

83. *Advanced Optics and Spectroscopy*.—Prerequisite: Twelve hours of advanced physics, including Physics 433; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Kuehne. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

384. *Harmonic Analysis*.—Prerequisite: Twelve hours of advanced physics; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Brown.

385. *Selected Topics in Advanced Mechanics*.—Prerequisite: Twelve hours of advanced physics; graduate standing or consent of instructor. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

386. *X Rays*.—Prerequisite: Twelve hours of advanced physics, including Physics 325; graduate standing or consent of instructor. Three lectures and two laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Colby.

87. *Advanced Electricity and Magnetism*.—Prerequisite: Twelve hours of advanced physics or electrical engineering, and twelve hours of calculus; graduate standing or consent of instructor. Three lectures a week for two semesters. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

388. *Electric Wave Filters*.—Prerequisite: Twelve hours of advanced physics; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Brown. (Not given in 1941-1942 or 1943-1944.)

89. *Quantum Physics*.—Prerequisite: Twelve hours of advanced physics; graduate standing or consent of instructor. Three lectures a week for two semesters. (Not given in 1942-1943 or 1944-1945.)

90. *Research*.—Prerequisite: Twelve hours of advanced physics; graduate standing. Credit will vary according to amount and quality of work. Laboratory fee, \$4. (Not given in 1943-1944.)

391. Theory of Sound.—Prerequisite: Twelve hours of advanced physics or electrical engineering; graduate standing. Three lectures a week for one semester. Mr. Boner. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

395. Atomic Spectra.—Prerequisite: Twelve hours of advanced physics and a course in differential equations; graduate standing and consent of instructor. Three lectures a week for one semester. Mr. Graves, Mr. Ginsburg. (Not given in 1941-1942 or 1943-1944.)

396. Crystal Structure.—Physics 396 and 86b may not both be counted. Prerequisite: Physics 386; graduate standing or consent of instructor. Three lectures and two laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Colby.

397. Selected Topics in Nuclear Physics.—Prerequisite: Twelve hours of advanced physics, including Physics 326; graduate standing or consent of instructor. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

98. Thesis Course for the Master's Degree.—Prerequisite: Twelve hours of advanced physics; graduate standing. Mr. Kuehne, Mr. Brown, Mr. Boner, Mr. Colby.

99. Thesis Course for the Degree of Doctor of Philosophy.—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Kuehne, Mr. Brown, Mr. Boner, Mr. Colby.

Psychology 83b.i. Seminar in Audition.—May, with the consent of the Chairman of the Department of Physics, be counted as physics if preceded by Physics 391. See Department of Psychology. Mr. Jeffress.

PHYSIOLOGY

See Department of Zoology and Physiology, page 178.

PORtUGUESE

See Department of Romance Languages, page 161.

DEPARTMENT OF PSYCHOLOGY

Fleming Allen Clay Perrin, Ph.D., *Professor of Psychology*.¹⁴⁸

David Ballin Klein, Ph.D., *Professor of Psychology*.

Lloyd Alexander Jeffress, Ph.D., *Professor of Psychology*.

Hugh Carlton Blodgett, Ph.D., *Professor of Psychology*.¹⁴⁹

Willard Hughes Brentlinger, M.A., *Assistant Professor of Psychology*.¹⁵⁰

Wade Lynn Brown, Ph.D., *Assistant Professor of Psychology*.¹⁵¹

¹⁴⁸Died December 1, 1944.

¹⁴⁹Appointment changed from *Associate Professor* to *Professor*, effective September 1, 1944.

¹⁵⁰Absent on leave for 1944-1945 and 1945-1946.

¹⁵¹Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1943.

Henry Wunderlich, Ph.D., *Assistant Professor of Psychology*.¹⁵²

Albert Martin Olsen, Ph.D., *Instructor in Psychology; Special Instructor in Romance Languages*.¹⁵³

Facilities for Graduate Study

In psychology graduate work is encouraged in general psychology, clinical psychology, mental hygiene, testing and mental organization, physiological psychology, and comparative psychology. Ample library facilities are provided for work in these fields. Laboratory and clinical facilities are available in many fields and special equipment can be provided when needed.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—Students majoring in psychology for the Master of Arts degree may select the minor from any of the departments of the College of Arts and Sciences or from the College of Education, but in selecting it they should confer with the Chairman of the Department.

For minor work in the department towards the Master of Arts degree any of the advanced courses for which the student is prepared and which correlate best with the major subject may be chosen.

In addition to the thesis, each student majoring in psychology for the master's degree will be expected to choose as much of his work at the senior and graduate level as is consistent with a good graduate program. In order to count a junior course on the master's degree, the student must have the approval of both the Chairman of the Department and the Dean of the Graduate School prior to or at the time of registration.

For the Doctor of Philosophy degree, students are advised to consult the Chairman of the Department concerning the sequence of courses, research, thesis requirements, and the special examinations for a major or minor in psychology.

Junior Courses

320. Statistical Methods in Psychology.—Prerequisite: Six hours of psychology, or three hours of psychology and junior standing. Three lectures a week for one semester. Mr. Jeffress.

420. Statistical Methods in Psychology.—Same as Psychology 320 except that laboratory hours are required. Prerequisite: Six hours of psychology, or three hours of psychology and junior standing. Three lectures and two laboratory hours a week for one semester. Mr. Jeffress. (Given for the first time in 1944-1945.)

¹⁵²Appointment changed from *Instructor* to *Assistant Professor*, effective March 1, 1945; absent on leave from December 1, 1945, to March 1, 1946.

¹⁵³Appointment as *Special Instructor in Romance Languages* for the Fall Term and the Winter Semester of 1944-1945; resignation effective December 31, 1944.

321. *Psychology of Personality*.—Prerequisite: Six hours of psychology. Three lectures a week for one semester. Mr. Klein. (Not to be given in 1945-1946.)

323. *Experimental Study of Perception*.—Prerequisite: Six hours of psychology. Three lectures a week for one semester. Mr. Jeffress. (Not given in 1941-1942, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

423. *Experimental Study of Perception*.—Same as Psychology 323 except that laboratory hours are required. Prerequisite: Six hours of psychology. Three lectures and two laboratory hours a week for one semester. Mr. Jeffress. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

324. *Psychology of Emotions*.—Prerequisite: Six hours of psychology. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

424. *Psychology of Emotions*.—Same as Psychology 324 except that laboratory hours are required. Prerequisite: Six hours of psychology. Three lectures and two laboratory hours a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

[327. *Selected Aspects of Military Psychology*.—A discussion of some problems of military psychology and military leadership. Prerequisite: Six hours of psychology. Three lectures a week for one semester. Mr. Klein. Given for the first time in 1943-1944; not given after 1943-1944.)]

30a.i, 30b.i. *Advanced General Psychology*.—Prerequisite: Six hours of psychology. Three lectures a week for two semesters. Mr. Blodgett. (Not given in 1941-1942, 1942-1943, or 1944-1945.)

31a.i, 31b.i. *History of Modern Psychology*.—Prerequisite: Six hours of psychology or Philosophy 29. May count as philosophy if preceded by six hours of advanced philosophy. Three lectures a week for two semesters. Mr. Klein. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

332. *Physiological Psychology*.—Prerequisite: Six hours of psychology; or Psychology 310, Zoology 1 or Physiology 6, and junior standing. Three lectures a week for one semester. Mr. Jeffress. (Not given in 1942-1943.)

432. *Physiological Psychology*.—Same as Psychology 332 except that laboratory hours are required. Prerequisite: Six hours of psychology; or Psychology 310, Zoology 1 or Physiology 6, and junior standing. Three lectures and two laboratory hours a week for one semester. Mr. Jeffress. (Given for the first time in 1944-1945.)

333. *Introduction to Comparative Psychology*.—Prerequisite: Six hours of psychology; or three hours of psychology, Zoology 1, or Physiology 6, and junior standing. Three lectures a week for one semester. Mr. Blodgett.

334. *Selected Topics in Comparative Psychology.*—Prerequisite: Six hours of psychology; or three hours of psychology, Zoology 1 or Physiology 6, and junior standing. Three lectures a week for one semester. Mr. Blodgett.

336. *Gestalt Psychology.*—Prerequisite: Six hours of psychology. Three lectures a week for one semester. Mr. Wunderlich. (Not given in 1942-1943 or 1944-1945.)

436. *Gestalt Psychology.*—Same as Psychology 336 except that laboratory hours are required. Prerequisite: Six hours of psychology. Three lectures and two laboratory hours a week for one semester. Mr. Wunderlich. (To be offered for the first time in 1945-1946.)

337. *Psychology of Language.*—Definitions, concepts, and experimental studies of language from the standpoint of psychological theory. Prerequisite: Six hours of psychology. Three lectures a week for one semester. Mr. Olsen.

338. *Psychology of Music.*—Prerequisite: Six hours of psychology or Music 12. Three lectures a week for one semester. Mr. Wunderlich. (Not given in 1941-1942 or 1943-1944.)

339. *Problems in Clinical Psychology.*—Prerequisite: Six hours of psychology. Three lectures a week for one semester. Mr. Klein.

340. *Psychology in Advertising.*—Prerequisite: Six hours of psychology, or three hours of psychology and junior standing. Three lectures a week for one semester. Mr. Brentlinger. (Not given in 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

345. *Individual and Group Differences.*—Prerequisite: Six hours of psychology, or three hours of psychology and three hours of advanced sociology. Three lectures a week for one semester. Mr. Brentlinger. (Not given in 1944-1945.)

346. *Industrial Psychology and Personnel Problems.*—Basic factors in vocational selection; methods of estimating aptitude and proficiency; measurement of special abilities; job analysis and specifications; work incentives and morale; training. Prerequisite: Six hours of psychology; unless Psychology 320 is included, consent of instructor. Three lectures a week for one semester. Mr. Brentlinger. (Given for the first time in 1942-1943; not given in 1944-1945.)

348. *Field of Mental Hygiene.*—Same as Education 374P. Survey and critical analysis of the factors involved in the prevention of mental disease and the improvement of mental health; emphasis on individual and public morale. Prerequisite: Six hours of psychology; or Psychology 310 and three hours of sociology; or six hours of educational psychology. Three lectures a week for one semester. Mr. Klein. (Given as psychology for the first time in 1942-1943.)

350. *Psychology of Motivation.*—Prerequisite: Six hours of psychology. Three lectures a week for one semester. Mr. Perrin. (Not given in 1941-1942, 1942-1943, or 1944-1945; not to be given in 1945-1946.)

351. Social Psychology.—Prerequisite: Six hours of psychology; or Psychology 310, three hours of philosophy, anthropology, or sociology, and junior standing. May count as philosophy if preceded by six hours of advanced philosophy. Three lectures a week for one semester. Mr. Perrin, Mr. Brown.

352. Abnormal Psychology.—Prerequisite: Six hours of psychology; or Psychology 310, three hours of philosophy, anthropology, or sociology, and junior standing. Three lectures a week for one semester. Mr. Perrin, Mr. Klein.

355. Psychology of Thought.—Historical, theoretical, and critical analysis of the development, nature, and function of the thought process. Prerequisite: Six hours of psychology, or Psychology 310, and three hours of philosophy, and junior standing. Three lectures a week for one semester. Mr. Brown. (Given for the first time in 1941-1942; not given in 1944-1945.)

257, 357. Undergraduate Research.—May be repeated for credit. To be taken in conjunction with any advanced course in psychology and comprising further work (experimental or otherwise) in the field of that course. Prerequisite: Six hours of psychology and consent of the instructor of the course it complements. Staff of the Department. (Given for the first time in 1942-1943.)

Philosophy 340. Self and Nature.—May count as psychology if preceded by six hours of advanced psychology. See Department of Philosophy. Mr. Gentry.

Philosophy 355. The Symbolic Process.—May count as psychology if preceded by six hours of advanced psychology. See Department of Philosophy. Mr. Gentry.

Senior and Graduate Courses

60a.i. Systematic Psychology.—Prerequisite: Six hours of advanced psychology. May count as philosophy if preceded by nine hours of advanced philosophy. Three lectures a week for one semester. Mr. Perrin. (Not to be given in 1945-1946.)

60b.i. Selected Topics in Social Psychology.—Prerequisite: Six hours of advanced psychology. Three lectures a week for one semester. Mr. Perrin. (Not given in 1944-1945; not to be given in 1945-1946.)

360K. Systematic Psychology.—A critical survey and analysis of psychological standpoints, supplementing Psychology 60a. Prerequisite: Six hours of advanced psychology. May count as philosophy if preceded by nine hours of advanced philosophy. Three lectures a week for one semester. Mr. Perrin. (Given for the first time in 1943-1944; not given in 1944-1945; not to be given in 1945-1946.)

364. Advanced Clinical and Abnormal Psychology.—Critical analysis of recent experimental and clinical developments in psychopathology and mental hygiene. Prerequisite: Six hours of advanced psychology, including at least one of the following: Psychology 339, 348, 352. Three lectures a week for one semester. Mr. Klein. (Given for the first time in 1944-1945.)

65. Survey of the Rorschach Method.—Training in administration, scoring, and interpretation of the Rorschach test; critical survey of relevant literature; application to personality diagnosis and to clinical problems. Prerequisite: Six hours of advanced psychology and consent of instructor. Two lectures and two laboratory hours a week for two semesters. Mr. Klein. (To be offered for the first time in 1945-1946.)

267, 367. Undergraduate Research.—May be repeated for credit. To be taken in conjunction with any advanced course in psychology and comprising further work (experimental or otherwise) in the field of that course. Prerequisite: Six hours of advanced psychology and consent of the instructor of the course it complements. Staff of the Department. (Given for the first time in 1942-1943; given also as Psychology 67 in 1943-1944.)

80. Seminar in Psychology.—Prerequisite: Twelve hours of advanced psychology and permission of the chairman of the department. The equivalent of three lectures a week for two semesters. Mr. Perrin, Mr. Klein, Mr. Jeffress, Mr. Blodgett. (Given as Psychology 80a.i, 80b.i in 1943-1944; not given in 1942-1943 or 1944-1945; not to be given in 1945-1946.)

83a.i. Seminar in Audition.—Prerequisite: Twelve hours of advanced psychology, graduate standing, and an elementary knowledge of physics and mathematics. Mr. Jeffress. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

83b.i. Seminar in Audition.—Prerequisite: Psychology 83a or Physics 391. Students offering Physics 391 as a prerequisite may, with the consent of the Chairman of the Department of Physics, count Psychology 83b as a course in physics. The equivalent of three lectures a week for one semester. Mr. Jeffress. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

84a.i. Seminar in Statistical Methods.—Prerequisite: Twelve hours of psychology; graduate standing; a knowledge of elementary calculus or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Jeffress. (Not given in 1942-1943 or 1943-1944.)

84b.i. Seminar in Statistical Methods.—Prerequisite: Twelve hours of psychology; graduate standing; a knowledge of elementary calculus or consent of instructor. The equivalent of three lectures a week for one semester. Mr. Jeffress. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

85a.i, 85b.i. Seminar in the History of Psychology.—Prerequisite: Twelve hours of advanced psychology; graduate standing. The equivalent of three lectures a week for two semesters. Mr. Klein. (Given for the first time in 1944-1945.)

86a.i, 86b.i. Seminar in Learning and the Conditioned Response.—Study of contemporary research in the field of learning and the conditioned response. Prerequisite: Twelve hours of advanced psychology; graduate standing. The equivalent of three lectures a week for two semesters. Mr. Blodgett. (To be offered for the first time in 1945-1946.)

90. *Research*.—Prerequisite: Twelve hours of advanced psychology; graduate standing. Laboratory fee, \$4. Mr. Perrin, Mr. Klein, Mr. Jeffress, Mr. Blodgett.

98. *Thesis Course for the Master's Degree*.—Prerequisite: Twelve hours of advanced psychology; graduate standing. Laboratory fee, \$4. Mr. Perrin, Mr. Klein, Mr. Jeffress, Mr. Blodgett.

99. *Thesis Course for the Degree of Doctor of Philosophy*.—Prerequisite: Admission to candidacy for the doctor's degree. Laboratory fee, \$4. Mr. Perrin, Mr. Klein, Mr. Jeffress, Mr. Blodgett.

Philosophy 363. Scientific Method.—May count as psychology if preceded by six hours of advanced psychology. See Department of Philosophy. Mr. Miller.

DEPARTMENT OF PURE MATHEMATICS

Milton Brockett Porter, Ph.D., *Professor of Pure Mathematics*.¹⁵⁴

Edward Lewis Dodd, Ph.D., *Professor of Actuarial Mathematics*.¹⁵⁵

Robert Lee Moore, Ph.D., M.N.A.S., *Professor of Pure Mathematics*.

Hyman Joseph Ettlinger, Ph.D., *Professor of Pure Mathematics; Research Mathematician, Defense Research Laboratory*.¹⁵⁶

Harry Shultz Vandiver, M.N.A.S., *Professor of Pure Mathematics*.¹⁵⁷

Paul Mason Batchelder, Ph.D., *Associate Professor of Pure Mathematics*.

Edwin Ford Beckenbach, Ph.D., *Associate Professor of Pure Mathematics*.¹⁵⁸

Floyd Burton Jones, Ph.D., *Associate Professor of Pure Mathematics*.¹⁵⁹

Renke Gustav Lubben, Ph.D., *Associate Professor of Pure Mathematics*.¹⁶⁰

Facilities for Graduate Study

Most of the leading mathematical journals in complete or nearly complete sets are in the Library.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

¹⁵⁴Resigned July 14, 1945.

¹⁵⁵Died January 9, 1943.

¹⁵⁶Appointment as *Research Mathematician* effective September 10, 1945.

¹⁵⁷Absent on leave for 1945-1946.

¹⁵⁸Appointment effective September 15, 1942; resignation effective June 30, 1945.

¹⁵⁹Absent on leave for 1942-1943 and 1943-1944 and for the Fall Term of 1944-1945; appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1943.

¹⁶⁰Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1943.

Specific prerequisites and requirements.—Students who plan to major in mathematics for the Master of Arts degree have a choice of several lines of progress corresponding to the different subdivisions of the subject. Among the courses in which a student of physics or chemistry may be particularly interested are Pure Mathematics 21, 22, 29, 84, 87K, 92, 93, 94, and 96, while 45, 46, and 47 may be of especial interest to a student of business administration. But the student should consult some member of the Department, preferably the one under whom he expects to take his principal work.

A student majoring in pure mathematics for the master's degree may not count more than nine semester hours of junior work on the degree, of which not more than three semester hours may be in the major.

Students who expect to major in pure mathematics for the degree of Doctor of Philosophy should consult the Chairman of the Department for advice concerning the work and special requirements.

Junior Courses

21. *Advanced Calculus.*—Prerequisite: Pure Mathematics 13. If before taking Pure Mathematics 21 a student has credit for three or six hours of advanced mathematics, Pure Mathematics 21 will count as a senior course to the extent of three or six hours. Three lectures a week for two semesters. Mr. Batchelder.

22. *Differential Equations and Applications.*—Same as Applied Mathematics 22. Prerequisite: Pure Mathematics 13. Counts in the same manner as Pure Mathematics 21. Three lectures a week for two semesters. Mr. Ettlinger.

323. *Introduction to the Foundations of Algebra.*—Prerequisite: Twelve hours of mathematics. Counts as a senior course if preceded by six hours of advanced mathematics. Three lectures a week for one semester. Mr. Vandiver. (Not given in 1942-1943 or 1944-1945.)

24. *Introduction to the Foundations of Analysis.*—Prerequisite: Pure Mathematics 13. Counts in the same manner as Pure Mathematics 21. Three lectures a week for two semesters. Mr. Moore. (Offered for the first time in 1941-1942 but not given; not given in 1944-1945.)

29. *Aeronautics.*—Application of college mathematics and mechanics to the flight of an airplane; forces operating on an airplane. Prerequisite: Pure Mathematics 13. Three lectures a week for two semesters. Mr. Ettlinger. (Given for the first time in 1941-1942, as Pure Mathematics 329; not given in 1943-1944 or 1944-1945.)

30. *Introduction to Modern Analytic Geometry.*—Prerequisite: Pure Mathematics 303 and 13, the latter of which may be taken in parallel. Counts in the same manner as Pure Mathematics 21. Three lectures a week for two semesters. Mr. Porter. (Not given in 1941-1942, 1942-1943, or 1944-1945.)

333. *Teaching Problems in Mathematics*.—Prerequisite: Twelve hours of mathematics. Counts in the same manner as Pure Mathematics 323. Three lectures a week for one semester. Mr. Porter.

336. *Elementary Number Theory*.—Prerequisite: Eighteen hours of mathematics. Counts in the same manner as Pure Mathematics 323. Three lectures a week for one semester. Mr. Vandiver. (Not given in 1941-1942 or 1943-1944.)

337. *Topics in Modern Algebra*.—Prerequisite: Pure Mathematics 336 or eighteen hours of mathematics. Counts in the same manner as Pure Mathematics 323. Three lectures a week for one semester. Mr. Vandiver. (Given also as Pure Mathematics 37 in 1941-1942; not given in 1943-1944.)

45. *Probability*.—May count as business administration. Prerequisite: Eighteen hours of mathematics, including Pure Mathematics 13. Counts in the same manner as Pure Mathematics 21. Three lectures a week for two semesters. Mr. Batchelder. (Not given in 1941-1942 or 1943-1944.)

46. *Mathematical Statistics*.—Prerequisite: Eighteen hours of mathematics. Counts in the same manner as Pure Mathematics 21. Three lectures a week for two semesters. Mr. Batchelder. (Not given in 1942-1943 or 1944-1945.)

47. *Actuarial Mathematics*.—May count as business administration. Prerequisite: Eighteen hours of mathematics, including Pure Mathematics 13. Counts in the same manner as Pure Mathematics 21. Three lectures a week for two semesters. Mr. Batchelder. (Not given in 1942-1943 or 1943-1944.)

Senior and Graduate Courses

380. *Theory of Groups*.—Prerequisite: Six hours of advanced pure mathematics and consent of instructor. A considerable degree of mathematical maturity is required. Three lectures a week for one semester. Mr. Vandiver. (Not given in 1941-1942 or 1942-1943.)

381. *Algebraic Solvability*.—Prerequisite: Pure Mathematics 380 and consent of instructor. A considerable degree of mathematical maturity is required. Three lectures a week for one semester. Mr. Vandiver. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

82. *Theory of Algebraic Numbers*.—Prerequisite: Consent of instructor. A considerable degree of mathematical maturity is required. Three lectures a week for two semesters. Mr. Vandiver. (Not given in 1941-1942, 1942-1943, or 1943-1944; given as Pure Mathematics 382 in 1944-1945.)

82K. *Research in Algebraic Numbers*.—Prerequisite: Pure Mathematics 82 and consent of instructor. The equivalent of three lectures a week for two semesters. Mr. Vandiver. (Not given in 1943-1944 or 1944-1945.)

83. *Theory of Functions of Real Variables*.—Prerequisite: Six hours of senior or graduate mathematics and consent of instructor. Mr. Dodd. Three lectures a week for two semesters. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

83K. Convex Functions and Subharmonic Functions.—Prerequisite: Pure Mathematics 21 or 83, and consent of instructor. Three lectures a week for two semesters. Mr. Beckenbach. (Not given in 1941–1942, 1942–1943, or 1943–1944.)

84. Functions of a Complex Variable.—Prerequisite: Pure Mathematics 21 and consent of instructor. Three lectures a week for two semesters. Mr. Batchelder. (Not given in 1941–1942 or 1943–1944.)

85. Infinite Processes.—Prerequisite: Pure Mathematics 21 or 83; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Dodd. (Not given in 1942–1943, 1943–1944, or 1944–1945.)

86. Introduction to Modern Analysis.—Prerequisite: Pure Mathematics 21; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Porter. (Not given in 1941–1942, 1942–1943, 1943–1944, or 1944–1945.)

87K. Differential Geometry.—Curvature, torsion, arc length; surfaces, differential forms; the theory of area, minimal surfaces, the problem of Plateau. Prerequisite: Pure Mathematics 21; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Beckenbach. (Given for the first time in 1943–1944; not given in 1944–1945.)

88. Foundations of Mathematics.—Prerequisite: Consent of instructor. A considerable degree of mathematical maturity is required. Three lectures a week for two semesters. Mr. Moore. (Not given in 1942–1943.)

89. Point-sets and Continuous Transformations.—Prerequisite: Consent of instructor. Three lectures a week for two semesters. Mr. Moore. (Not given in 1942–1943 or 1943–1944.)

90. Research in Point-set Theory.—Prerequisite: Consent of instructor. The equivalent of three lectures a week for two semesters. Mr. Moore. (Not given in 1943–1944 or 1944–1945.)

92. Partial Differential Equations.—Same as Applied Mathematics 92. Prerequisite: Pure Mathematics 22; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Ettlinger. (Not given in 1941–1942 or 1942–1943.)

93. Calculus of Variations.—Prerequisite: Pure Mathematics 21; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Ettlinger. (Not given in 1941–1942, 1942–1943, or 1943–1944.)

94. Selected Topics in Mathematical Physics.—Prerequisite: Six hours of senior mathematics or physics; graduate standing. Three lectures a week for two semesters. Mr. Ettlinger. (Not given in 1942–1943, 1943–1944, or 1944–1945.)

96. Integral Equations.—Prerequisite: Pure Mathematics 21 or 22; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Ettlinger. (Not given in 1941–1942, 1942–1943, 1943–1944, or 1944–1945.)

397. *Theory of Sets.*—Prerequisite: A considerable degree of mathematical maturity and consent of instructor. Three lectures a week for one semester. Mr. Moore. (Given for the first time in 1943-1944; not given in 1944-1945.)

98. *Thesis Course for the Master's Degree.*—Prerequisite: Graduate standing in mathematics. Mr. Porter, Mr. Dodd, Mr. Moore, Mr. Ettlinger, Mr. Vandiver, Mr. Batchelder, Mr. Beckenbach, Mr. Jones, Mr. Lubben.

99. *Thesis Course for the Degree of Doctor of Philosophy.*—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Porter, Mr. Dodd, Mr. Moore, Mr. Ettlinger, Mr. Vandiver.

DEPARTMENT OF ROMANCE LANGUAGES

Lilia Mary Casís, M.A., *Professor of Romance Languages.*¹⁶¹

Ernest Joseph Villavaso, M.A., *Professor of Romance Languages.*¹⁶²

Clyde Chew Glascok, Ph.D., *Professor of Romance Languages.*¹⁶³

Aaron Schaffer, Ph.D., *Professor of Romance Languages.*¹⁶⁴

Robert Haden Williams, M.A., *Professor of Romance Languages.*

Elmer Richard Sims, Ph.D., *Professor of Romance Languages.*

Clifford Marvin Montgomery, Ph.D., *Professor of Romance Languages.*

Jefferson Rea Spell, Ph.D., *Professor of Romance Languages.*¹⁶⁵

Adolph Benjamin Swanson, Ph.D., *Professor of Romance Languages.*

Carl Alvin Swanson, Ph.D., *Associate Professor of Romance Languages.*

Katherine Ernestine Wheatley, Ph.D., *Associate Professor of Romance Languages.*¹⁶⁶

Dorothy Schons, Ph.D., *Associate Professor of Romance Languages.*¹⁶⁷

Ramón Martínez-López, Ph.D., *Associate Professor of Romance Languages.*¹⁶⁸

Robert Clarence Stephenson, Ph.D., *Associate Professor of Romance Languages; Associate Professor of English.*¹⁶⁹

¹⁶¹Modified service.

¹⁶²Modified service, effective September 1, 1944.

¹⁶³Modified service, effective September 15, 1942; died May 24, 1944.

¹⁶⁴Absent on leave for the second semester of 1941-1942.

¹⁶⁵Appointment changed from *Associate Professor* to *Professor*, effective September 1, 1944.

¹⁶⁶Absent on leave for the Fall Term of 1944-1945 and from September 1, 1945, to December 1, 1945.

¹⁶⁷Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1943.

¹⁶⁸Absent on leave for 1941-1942; appointment changed from *Instructor* to *Assistant Professor*, effective September 15, 1942; appointment changed to *Associate Professor*, effective September 1, 1944.

¹⁶⁹Appointment changed from *Assistant Professor of Romance Languages* to *Associate Professor of English*; *Associate Professor of Romance Languages*, effective September 1, 1945. Appointed also as *Special Instructor in English* for the Winter Semesters of 1943-1944 and 1944-1945.

Nina Lee Weisinger, M.A., *Assistant Professor of Romance Languages*.

Lancaster Eugene Dabney, Ph.D., *Assistant Professor of Romance Languages*.¹⁷⁰

Randolph Arnold Haynes, Ph.D., *Assistant Professor of Romance Languages*.¹⁷¹

Albert Schinz, Ph.D., LL.D., *Professor of Romance Languages*.¹⁷²

Pablo Maximiliano Ynsfran, Bachiller en Ciencias y Letras, Escribano Público, Corresponding Member of the Spanish Academy, *Visiting Professor, Institute of Latin-American Studies; Visiting Professor of Romance Languages*.¹⁷³

Facilities for Graduate Study

The Library of The University of Texas contains some twenty-five thousand volumes dealing with the Romance languages and literature. These have been selected from the standpoint of the needs of advanced students and include nearly all the important philological journals and fundamental books of reference for the study of French, Spanish, Italian, and Portuguese. They can supply orientation for most subjects in this field and the material for the solution of many problems. In addition to this estimate there is one collection of about 12,000 items in Spanish drama. Besides these volumes, the Library contains the Latin-American Collection (over 48,000 volumes), which is especially rich in the literature of Hispanic America.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—For the Master of Arts degree students must offer French 28, if majoring in French, or Spanish 26, if majoring in Spanish, unless that course has been presented as a prerequisite.

In addition to the thesis, each student majoring in the Department of Romance Languages for a master's degree will be expected to choose as much of his work at the senior and graduate level as is consistent with a good graduate program. In order to count a junior course on the master's degree, the student must have the approval of both the Chairman of the Department and the Dean of the Graduate School prior to or at the time of registration.

¹⁷⁰Absent on leave for 1941-1942.

¹⁷¹Absent on leave for 1945-1946.

¹⁷²Appointment for the second semester of 1941-1942.

¹⁷³Appointment as *Lecturer, Institute of Latin-American Studies*, for the second semester of 1941-1942; for 1942-1943, as *Professor, Institute of Latin-American Studies*; for 1943-1944, as *Visiting Professor, Institute of Latin-American Studies; Visiting Professor of Government*; for 1944-1945, as *Visiting Professor and Research Associate, Institute of Latin-American Studies*; for 1945-1946, as *Visiting Professor of Romance Languages; Visiting Professor of Business Administration; Lecturer in Law*.

If the minor subject is not a foreign language, the student must have credit for twelve semester hours in a second foreign language before receiving his degree.

In addition to the general regulations of the University for the degree of Doctor of Philosophy, the Department of Romance Languages has adopted the following special regulations:

1. The major subject must be either French or Spanish. The first minor must be one of the Romance languages or one of the following: English, German, Greek, or Latin. The second minor may be selected from any of the humanistic subjects.
2. Candidates for the degree of Doctor of Philosophy in Romance languages must have had substantial preparation in Latin and must have, before graduation, at least a reading knowledge of three major Romance languages.
3. Before being admitted to candidacy for the Doctor of Philosophy degree by the Departmental Graduate Council, each candidate shall be required to pass an examination in his major field to test his general knowledge of the language and literature.

Romance Club

The Romance Club meets once a month during the academic year. All instructors and graduate students of the Department are members. Journal notices, book reviews, and original papers are read and discussed.

FRENCH

Junior Courses

20. *History of the French Novel*.—Prerequisite: French 12. Three lectures a week for two semesters. Mr. Schaffer. (Given in alternate years; to be given in 1945-1946.)

24. *Advanced Composition*.—Prerequisite: French 12. Three lectures a week for two semesters. Mr. Villavaso.

25. *History of the French Drama since 1636*.—Prerequisite: French 12. Three lectures a week for two semesters. Mr. Schaffer. (Given in alternate years; to be omitted in 1945-1946.)

28. *Outline History of French Literature*.—Prerequisite: French 12. Three lectures a week for two semesters. Mr. Dabney.

[30. *French Civilization*.—Given in English. Does not count as foreign language credit. No knowledge of French required. Prerequisite: Junior standing under Plan II for the B.A. degree, or consent of the Dean or instructor. Three lectures a week for two semesters. Mr. A. B. Swanson. (Prior to 1942-1943 given as a senior course, French 65; not given after 1942-1943.)]

336. *Eighteenth-Century Literature*.—Prerequisite: French 12. Three lectures a week for one semester. Mr. C. A. Swanson. (Alternates with French 351; to be omitted in 1945-1946.)

38a.i. *French Literature of the Seventeenth Century*.—Prerequisite: French 12. Three lectures a week for one semester. Miss Wheatley. (Given in alternate years; to be omitted in 1945-1946.)

38b.i. *French Literature of the Seventeenth Century*.—Prerequisite: French 12. Three lectures a week for one semester. Miss Wheatley. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

40a.i, 40b.i. *French Civilization*.—Conducted in French. Prerequisite: French 12. Three lectures a week for two semesters. Miss Wheatley. (Given for the first time in 1941-1942.)

351. *Contemporary French Drama*.—Prerequisite: French 12. Three lectures a week for one semester. Mr. C. A. Swanson. (Alternates with French 336; to be given in 1945-1946.)

English 334. *Romance Literatures in English Translation*.—See Department of English. Mr. Schaffer.

Senior and Graduate Courses

360. *Eighteenth-Century French Comedy*.—Prerequisite: French 12 and six hours of advanced French. Three lectures a week for one semester. Mr. Schaffer. (Given for the first time in 1943-1944; not given in 1944-1945.)

361. *Victor Hugo*.—Prerequisite: Six hours of advanced French. Three lectures a week for one semester. Mr. Schaffer. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

368. *Romantic Drama*.—Prerequisite: French 12 and six hours of advanced French. Three lectures a week for one semester. Mr. Schaffer. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

371. *Phonetics*.—French 371 and 331 may not both be counted. Prerequisite: Six hours of advanced French. Three lectures a week for one semester.

373. *History of the French Language*.—French 373 and 333 may not both be counted. Prerequisite: Six hours of advanced French. Three lectures a week for one semester. Mr. A. B. Swanson. (Not given in 1941-1942 or 1942-1943.)

[274, 374. *Rousseau*.—Contributions of Jean-Jacques Rousseau to eighteenth-century literature, to political, religious, and educational thought, and to philosophy. Prerequisite: Six hours of advanced courses in a modern foreign language or six hours of approved courses in English, philosophy, the history and philosophy of education, government, economics, or sociology. Two lectures a week for one semester; for 374, additional outside work. Mr. Schinz. (Given for the first time in 1941-1942; not given after 1941-1942.)]

375. *Sixteenth-Century Literature*.—French 375 and 335 may not both be counted. Prerequisite: Six hours of advanced French. Three lectures a week for one semester. Mr. A. B. Swanson. (Not given in 1942-1943.)

[377. *French Lyric Poetry from Villon through Chénier*.—French 377 and 23 may not both be counted. Prerequisite: Six hours of advanced French. Three lectures a week for one semester. Miss Wheatley. (Given only in 1942-1943.)]

379. *French Classical Tragedy*.—Prerequisite: Six hours of advanced French. Three lectures a week for one semester. Miss Wheatley. (Given in alternate years; to be given in 1945-1946.)

380. *Nineteenth-Century French Lyric Poetry*.—Prerequisite: Twelve hours of advanced French and consent of instructor; or six hours of advanced French and graduate standing. Three lectures a week for one semester. Mr. Schaffer.

81. *Old French Language*.—Prerequisite: Twelve hours of advanced French and consent of instructor, or six hours of advanced French and graduate standing. Three lectures a week for two semesters. Mr. Villavaso. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

82. *Old French Literature*.—Prerequisite: Twelve hours of advanced French and consent of instructor, or six hours of advanced French and graduate standing. Three lectures a week for two semesters. Mr. Villavaso. (Not given in 1941-1942 or 1942-1943; to be omitted in 1945-1946.)

383. *Molière and Seventeenth-Century French Comedy*.—Prerequisite: Twelve hours of advanced French and consent of instructor, or six hours of advanced French and graduate standing. Three lectures a week for one semester. Mr. Schaffer.

[384. *Reason versus Sentiment in Eighteenth-Century Thought and Literature*.—Reason versus sentiment in eighteenth-century literature and philosophy, and political, educational, religious, and economic thought. Prerequisite: Twelve hours of advanced courses in a modern foreign language or twelve hours of approved courses in English, philosophy, the history and philosophy of education, government, economics, or sociology. Three lectures a week for one semester. Mr. Schinz. (Given for the first time in 1941-1942; not given after 1941-1942.)]

388. *Romance Bibliography*.—Same as Spanish 388. Technique of assembling and using bibliography. Prerequisite: Twelve hours of advanced Spanish or French and consent of instructor, or six hours of advanced Spanish or French and graduate standing. Three lectures a week for one semester. Mr. Williams. (Not given in 1943-1944 or 1944-1945; not to be given in 1945-1946.)

98. *Thesis Course for the Master's Degree*.—Prerequisite: Graduate standing in French. Mr. Villavaso, Mr. Schaffer, Mr. A. B. Swanson, Mr. C. A. Swanson, Miss Wheatley, Mr. Dabney.

99. *Thesis Course for the Degree of Doctor of Philosophy.*—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Villavaso, Mr. Schaffer.

ITALIAN

Junior Courses

322. *Dante.*—Prerequisite: Italian 11 or 12. Three lectures a week for one semester. Mr. C. A. Swanson. (Given in alternate years; to be given in 1945-1946.)

23. *Nineteenth-Century Literature.*—Prerequisite: Italian 11 or 12. Three lectures a week for two semesters. Mr. C. A. Swanson. (Given in alternate years; to be omitted in 1945-1946.)

324. *Italian Literature of the Renaissance.*—Prerequisite: Italian 11 or 12. Three lectures a week for one semester. Mr. C. A. Swanson. (Given in alternate years; to be given in 1945-1946.)

PORtUGUESE

Junior Course

25. *Portuguese and Brazilian Literature.*—Prerequisite: Portuguese 11 or 12. Three lectures a week for two semesters. Mr. Martínez-López.

SPANISH

Junior Courses

321. *Civilization of Southern South America.*—Spanish 321 and History 46b may not both be counted. No knowledge of Spanish required; does not count as foreign language credit. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Ynsfran. (Given for the first time in 1941-1942; not given in 1944-1945.)

321K. *Civilization of Southern South America.*—Given in Spanish. Prerequisite: Spanish 12 or 13. Three lectures a week for one semester. Mr. Ynsfran. (To be offered for the first time in 1945-1946.)

322. *Civilization of Northern South America and Central America.*—Given largely in Spanish. Prerequisite: Spanish 12 or 13. Three lectures a week for one semester. Mr. Ynsfran. (To be offered for the first time in 1945-1946.)

324. *Literary History of Mexico: The Novel.*—Conducted in Spanish. Prerequisite Spanish 12 or 13. Three lectures a week for one semester. Miss Schons.

25a.i, 25b. *Spanish-American Literature.*—Prerequisite: Spanish 12 or 13. Three lectures a week for two semesters. Miss Weisinger.

26. *History of Spanish Literature.*—Prerequisite: Spanish 12 or 13. Three lectures a week for two semesters. Mr. Williams.

27a.i, 27b.i. *Advanced Composition*.—Prerequisite: Spanish 12 or 13. Three lectures a week for two semesters. Miss Casis, Mr. Haynes.

28. *Spanish Civilization*.—Conducted in Spanish. Prerequisite: Spanish 12 or 13. Three lectures a week for two semesters. Mr. Martínez-López. (Not given in 1942-1943.)

329. *Selected Readings from Spanish Poets*.—Conducted in Spanish. Prerequisite: Spanish 12 or 13. Three lectures a week for one semester. Miss Schons. (Not given in 1941-1942; not to be given in 1945-1946.)

330. *The Costumbrista Movement*.—Prerequisite: Spanish 12 or 13. Three lectures a week for one semester. Mr. Montgomery. (Not given in 1941-1942, 1942-1943, or 1943-1944; not to be given in 1945-1946.)

333. *The Spanish Farce*.—Prerequisite: Spanish 12. Three lectures a week for one semester. Mr. Stephenson. (Not given in 1941-1942, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

35. *Modern Spanish Novel*.—Prerequisite: Spanish 12 or 13. Three lectures a week for two semesters. Mr. Montgomery. (Given in alternate years; to be given in 1945-1946.)

36. *Modern Spanish Drama*.—Prerequisite: Spanish 12 or 13. Three lectures a week for two semesters. Mr. Montgomery. (Not given in 1941-1942; not to be given in 1945-1946.)

338. *The Spanish Ballad*.—Prerequisite: Spanish 12 or 13. Three lectures a week for one semester. Mr. Martínez-López. (Given in alternate years; to be omitted in 1945-1946.)

339. *The Spanish Short Story: Recent Writers*.—Prerequisite: Spanish 12 or 13. Three lectures a week for one semester. Miss Schons. (Not given in 1942-1943 or 1943-1944.)

341. *Contemporary Spanish-American Prose*.—Prerequisite: Spanish 12 or 13. Three lectures a week for one semester. Mr. Spell, Mr. Martínez-López.

343. *Contemporary Drama and Poetry of Spanish America*.—Prerequisite: Spanish 12 or 13. Three lectures a week for one semester. Mr. Spell, Mr. Martínez-López.

Senior and Graduate Courses

360. *Minor Dramatics of the Golden Age*.—Prerequisite: Six hours of advanced Spanish. Three lectures a week for one semester. Mr. Sims.

61. *Nineteenth-Century Argentine Literature*.—Conducted in Spanish. Prerequisite: Six hours of advanced Spanish. Three lectures a week for two semesters. Mr. Martínez-López. (Not given in 1941-1942.)

362. *Contemporary Spanish Essay*.—Spanish 362 and 72y may not both be counted. Prerequisite: Spanish 12 and six hours of advanced Spanish. Three lectures a week for one semester. Mr. Stephenson. (Given in alternate years; to be omitted in 1945-1946.)

363. *Spanish Mystics*.—The mystic writers in both prose and verse. Prerequisite: Spanish 12 and six hours of advanced Spanish. Three lectures a week for one semester. Mr. Stephenson. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

64. *Spanish Classical Drama*.—Prerequisite: Spanish 12 and six hours of advanced Spanish. Three lectures a week for two semesters. Mr. Stephenson. (Given in alternate years; to be given in 1945-1946.)

365. *Spain in America*.—A study of intellectual relations between Spain and Spanish America. Prerequisite: Spanish 12 or 13, and six hours of advanced Spanish. Three lectures a week for one semester. Miss Schons. (To be offered for the first time in 1945-1946.)

[66. *Criticism*.—Prerequisite: Six hours of advanced Spanish. Three lectures a week for two semesters. Mr. Glascock. (Given in 1942-1943 only.)]

68a.i, 68b.i. *Spanish Classical Prose*.—Prerequisite: Spanish 12 and six hours of advanced Spanish. Three lectures a week for two semesters. Mr. Sims. (Not given in 1941-1942 or 1942-1943; not to be given in 1945-1946.)

72. *Contemporary Spanish Literature*.—Prerequisite: Six hours of advanced Spanish. Three lectures a week for two semesters. Miss Casís.

80a.i, 80b.i. *Studies in Spanish-American Literature*.—May be repeated for credit. Topics: For 1945-1946, Winter Semester, *The Novel in Spanish America in the Nineteenth Century*; Spring Semester, *The Novels of Fernández de Lizardi*; for 1946-1947, Winter Semester, *The Novel in Spanish America in the Twentieth Century*; Spring Semester, *The Novels of Eduardo Mallea*. Prerequisite: Twelve hours of advanced Spanish and consent of instructor, or six hours of advanced Spanish and graduate standing. Three lectures a week for two semesters. Mr. Spell.

82a.i, 82b.i. *Studies in Modern Spanish Novel and Drama*.—May be repeated for credit. Topics for 1945-1946: Winter Semester, *The Drama of Benavente*; Spring Semester, *The Comedias of the Quinteros*. Topics for 1946-1947: Winter Semester, *The Novels of Palacio Valdés*; Spring Semester, *The Novels of Pérez Galdós*. Prerequisite: Twelve hours of advanced Spanish and consent of instructor, or six hours of advanced Spanish and graduate standing. Three lectures a week for two semesters. Mr. Montgomery. (Not given in 1943-1944.)

83a.i, 83b.i. *Studies in Spanish Literature of the Eighteenth and Nineteenth Centuries*.—May be repeated for credit. Topic for 1945-1946: *The Generation of 98*. Topic for 1946-1947: *Modern Spanish Poetry*. Prerequisite: Twelve hours of advanced Spanish and consent of instructor, or six hours of advanced Spanish and graduate standing. Three lectures a week for two semesters. Mr. Martínez-López. (Given in alternate years; to be given in 1945-1946.)

384. *Early Spanish Drama*.—Prerequisite: Twelve hours of advanced Spanish and consent of instructor, or six hours of advanced Spanish and graduate standing. Three lectures a week for one semester. Mr. Sims. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

86. *Old Spanish Language*.—Prerequisite: Twelve hours of advanced Spanish and consent of instructor, or six hours of advanced Spanish and graduate standing. Three lectures a week for two semesters. Mr. Haynes. (Not given in 1942-1943 or 1944-1945; not to be given in 1945-1946.)

87. *Old Spanish Literature*.—Prerequisite: Twelve hours of advanced Spanish and consent of instructor, or six hours of advanced Spanish and graduate standing. Three lectures a week for two semesters. Mr. Sims. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

388. *Romance Bibliography*.—Same as French 388. Technique of assembling and using bibliography. Prerequisite: Twelve hours of advanced Spanish or French and consent of instructor, or six hours of advanced Spanish or French and graduate standing. Three lectures a week for one semester. Mr. Williams. (Not given in 1943-1944 or 1944-1945.)

391. *Problems in Seventeenth-Century Spanish Fiction*.—Prerequisite: Twelve hours of advanced Spanish and consent of instructor, or six hours of advanced Spanish and graduate standing. Mr. Williams. (Offered for the first time in 1941-1942 but not yet given.)

98. *Thesis Course for the Master's Degree*.—Prerequisite: Graduate standing in Spanish. Miss Casís, Mr. Sims, Mr. Montgomery, Mr. Williams, Mr. Spell, Miss Schons, Mr. Martínez-López, Miss Weisinger, Mr. Stephenson, Mr. Haynes.

99. *Thesis Course for the Degree of Doctor of Philosophy*.—Majors in Spanish under the Latin-American studies plan should consult the Chairman of the Department. Prerequisite: Admission to candidacy for the doctor's degree. Miss Casís, Mr. Sims, Mr. Montgomery, Mr. Williams, Mr. Spell, Miss Schons.

DEPARTMENT OF SLAVONIC LANGUAGES

Eduard Míček, Ph.D., Professor of Slavonic Languages.¹⁷⁴

Advanced courses in Czech may be counted as a minor for the degree of Master of Education but not for the Master of Arts degree. Students must conform to the requirements in regard to rank of courses as specified under the Master of Education degree.

CZECH

Junior Courses

20. *Czech Literature of the Fifteenth, Sixteenth, and Seventeenth Centuries*.—Prerequisite: Czech 12. Three lectures a week for two semesters. Mr. Míček. (Alternates with Czech 21; to be omitted in 1945-1946.)

21. *Czech Literature of the Eighteenth, Nineteenth, and Twentieth Centuries*.—Prerequisite: Czech 12. Three lectures a week for two semesters. Mr. Míček. (Alternates with Czech 20; to be given in 1945-1946.)

¹⁷⁴Appointment changed from Associate Professor to Professor, effective September 1, 1945.

Senior Course

60. Karel Čapek, a Modern Czech Dramatist.—Prerequisite: Czech 20 or 21. Three lectures a week for two semesters. Mr. Miček. (Not given in 1943-1944.)

DEPARTMENT OF SOCIOLOGY

Warner Ensign Gettys, Ph.D., *Professor of Sociology; Director of the Bureau of Research in the Social Sciences.*

Carl Martin Rosenquist, Ph.D., *Professor of Sociology.*¹⁷⁵

Robert Lee Sutherland, Ph.D., *Professor of Sociology; Director of the Hogg Foundation for Mental Hygiene, and Lecturer and Consultant in the Program.*

Harry Estill Moore, Ph.D., *Associate Professor of Sociology.*¹⁷⁶

Rex DeVern Hopper, Ph.D., *Assistant Professor of Sociology.*

Degree Requirements

In addition to the general prerequisites and requirements for the Master of Arts degree and the Doctor of Philosophy degree, as set forth on pages 31 to 34 and 25 to 28, the following specific prerequisites and requirements apply to those students who are working toward higher degrees with sociology as the major.

Selection of courses should be made with the advice of the Department. The student is expected to consult with the Chairman of the Department, who will either advise him or direct him to a member of the departmental staff. Graduate students who major in sociology should include Sociology 75, and Sociology 373 or Sociology 79, if these courses have not been taken for undergraduate credit.

A student majoring in sociology for the master's degree may count not more than nine semester hours of junior work on the degree, of which not more than three semester hours may be in the major.

The work of the Department is divided into the following divisions, from which selection of courses and seminars is to be made:

- I. History and Theory.
- II. Research Methods.
- III. Human Ecology and Demography.
- IV. Sociology of the Person.
- V. Sociology of Collective Behavior.
- VI. Sociology of Institutions.
- VII. Social Change and Social Disorganization.

¹⁷⁵Absent on leave for 1941-1942 and 1942-1943.

¹⁷⁶Absent on leave for the second semester of 1942-1943; appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

Each candidate for the Doctor of Philosophy degree with a major in sociology is expected to be prepared in four of the divisions. For information concerning the courses grouped under each division the student is expected to consult with the Chairman of the Department.

The first minor shall be in a division of sociology not included in the major, except that with the approval of the Department of Sociology and the Dean of the Graduate School the first minor may be in another social science.

The second minor should be in another social science, but it may be outside the field of the social sciences, subject to the approval of the Department of Sociology and the Dean of the Graduate School.

A student who desires to major in sociology for the Doctor of Philosophy degree should make a written application to the Chairman of the Department for admission to candidacy when he considers that he is prepared to take the preliminary or qualifying examination.

The general requirement concerning examinations in foreign languages shall be followed except that in the Department of Sociology the foreign language examinations should be passed before the student takes his preliminary examination for admission to candidacy for the Doctor of Philosophy degree.

A preliminary or qualifying written examination to test the student's ability to engage in a program of graduate study and independent research leading to the Doctor of Philosophy degree shall be taken soon after the application for admission to candidacy has been submitted and approved in accordance with the general requirement (see page 25), but in no case less than eight months before the date on which the student expects to receive his degree. On the basis of previous work done and the showing made on the preliminary examination, the Department will approve the candidacy of the student, disapprove it, or postpone decision. If decision to postpone approval is given, the Department will meet with the student to determine the course of action to be taken by him in order that he may secure approval. If the decision is one of disapproval, it is likely that the student will be asked to withdraw his application for candidacy.

The general requirements of The University of Texas regarding the doctoral dissertation and the final examinations will be followed. The oral examination shall consist of two parts: (1) the contribution of the dissertation and (2) the theory, method, and literature relevant to the dissertation.

Junior Courses

320. Community Resources and Organization in Wartime.—Introduction to a sociological interpretation of the community; understanding of the symbiotic and co-operative aspects of modern community life; changes demanded in a shift from a peacetime to a wartime economy. Prerequisite: Sociology 311, or Sociology 310 and three hours in another social science. Three lectures a week for one semester. Mr. Gettys. (Given for the first time in 1942-1943; not given in 1944-1945.)

321. *Morale in Time of War.*—Morale as an element in group life, its function in time of crisis; factors making for or against morale and its correlation with other aspects of the social situation. The present war will form a basis for the discussions. Prerequisite: Sociology 311, or Sociology 310 and three hours in another social science. Three lectures a week for one semester. Mr. H. E. Moore. (Given for the first time in 1941-1942.)

328. *The Sociology of Institutions.*—A sociological analysis of institutional behavior; involves the comparative study of institutions, the process of institutionalization, and the interrelation of institutional forms. Prerequisite: Sociology 311, or Sociology 310 and three hours of another social science. Three lectures a week for one semester. Mr. Gettys. (Given for the first time in the Summer Term, 1944.)

344. *Race Relations.*—A comprehensive study of the roles played by the minority peoples in the United States, in which are presented theories of racial and cultural group conflict and coöperation. Prerequisite: Sociology 311, or Sociology 310 and Anthropology 310; junior standing. Three lectures a week for one semester. Mr. H. E. Moore. (Not given in 1942-1943.)

345. *The Community: A Study of Rural Life.*—The community as an object of study; the natural history of the community; the nature of the modern rural community, its ecological basis and its social structure; rural community disorganization and reorganization. Prerequisite: Sociology 311; or Sociology 310, and Economics 312 or Government 10; junior standing. Three lectures a week for one semester. Mr. Gettys. (Not given in 1942-1943.)

346. *The Community: A Study of Urban Life.*—Methods of studying the community; the social anatomy of the modern urban community; disorganization and reorganization in modern urban communities. Prerequisite: Sociology 311; or Sociology 310, and Economics 312 or Government 10; junior standing. Three lectures a week for one semester. Mr. Sutherland. (Not given in 1941-1942 or 1942-1943.)

347. *Population Problems.*—Composition of population; rates and trends in population growth; factors in population growth; the problem of quality; population policies and control. Prerequisite: Sociology 311; or Sociology 310, and Anthropology 310 or Economics 312 or Government 10; junior standing. Three lectures a week for one semester. Mr. Rosenquist.

348. *Criminology.*—Causes and manifestations of delinquency; case studies of delinquents and their social milieu; particular attention to the juvenile offender and the agencies for his adjustment; a sociological analysis and evaluation of penal methods. Prerequisite: Sociology 311 and junior standing. Three lectures a week for one semester. Mr. Rosenquist.

349. *Social Factors in the Development of Personality.*—The nature of personality; the formation of wishes, habits, attitudes, and complexes by social conditioning; the role of the person in the group; personality types; personal disorganization and reorganization. Prerequisite: Sociology 311, or Sociology 310 and three hours of psychology; junior standing. Three lectures a week for one semester. Mr. Rosenquist.

350. *Sociology of Childhood*.—Care and training of the child as these affect his social relations; the social treatment of maladjusted cases; the agencies of child welfare. Prerequisite: Sociology 311 or Sociology 310 and three hours of psychology; junior standing. Three lectures a week for one semester. Mr. Hopper. (Not given in 1941-1942 or 1942-1943.)

351. *Problems of Youth*.—Social and vocational adjustment problems of youth between fifteen and twenty-one years of age. Based in part on the studies completed by the American Youth Commission. Prerequisite: Sociology 311, or Sociology 310 and three hours of psychology; junior standing. Three lectures a week for one semester. Mr. Sutherland. (Given for the first time in 1941-1942; not given in 1943-1944.)

352. *Collective Behavior*.—The behavior of collectivities of people, such as crowds and publics, together with the mechanisms and interactional processes involved in such social phenomena. Prerequisite: Sociology 311, or Sociology 310 and three hours of psychology; junior standing. Three lectures a week for one semester. Mr. Hopper. (To be offered for the first time in 1945-1946.)

356. *Regional Social Organization*.—The rise and incidence of American regionalism; historical and theoretical aspects of regionalism; problems and strategy of regional development. Prerequisite: Sociology 311; or Sociology 310, and Anthropology 311 or Economics 312 or Government 10; junior standing. Three lectures a week for one semester. Mr. H. E. Moore. (Not given in 1942-1943.)

357. *Sociology of Public Opinion*.—The nature of public opinion; how it is developed; social controls operative in its formation; propaganda techniques. Prerequisite: Sociology 311; or Sociology 310, and Economics 312 or Government 10 or Journalism 12; junior standing. Three lectures a week for one semester. Mr. H. E. Moore. (Not given in 1941-1942.)

358. *Sociology of Conflict*.—Sociological analysis of conflict behavior, including feuds and factions, war, race prejudice, class struggle, party strife, sectarian controversy, etc. Prerequisite: Sociology 311 and junior standing. Three lectures a week for one semester. Mr. Gettys. (Not given in 1941-1942.)

Architecture 59a.i, 59b.i. Principles of Housing and City Planning.—May count as sociology if preceded by Sociology 310. See Department of Architecture, College of Engineering catalogue. Mr. Leipziger-Pearce.

Economics 334. The Standard of Living.—May count as sociology if preceded by Economics 313 and Sociology 311. See Department of Economics. Miss Allen.

Philosophy 330. Social Philosophy.—May count as sociology if preceded by six hours of advanced sociology. See Department of Philosophy. Mr. Mitchell.

Philosophy 355. The Symbolic Process.—May count as sociology if preceded by six hours of advanced sociology. See Department of Philosophy. Mr. Gentry.

Senior and Graduate Courses

360. *Human Ecology*.—Critical analysis of the ecological school in sociology; examination of the conceptual, theoretical, and methodological aspects of human ecology. Prerequisite: Six hours of advanced sociology. Three lectures a week for one semester. Mr. Gettys. (Not given in 1941-1942 or 1942-1943.)

362. *Social Change*.—The basic nature of social change as related to ideological and material factors; examination of linear and cyclical theories; analysis of the idea of progress, certain stage theories, dialectic materialism, and the lag hypothesis. Prerequisite: Six hours of advanced sociology. Three lectures a week for one semester. Mr. Gettys.

363. *Social Welfare*.—Consideration of the organization, problems, personnel, and administration of welfare departments; interdepartmental relationships; welfare legislation; federal, state, and local programs of social welfare. Prerequisite: Six hours of advanced sociology. Three lectures a week for one semester. Mr. Rosenquist. (Not given in 1942-1943 or 1944-1945.)

364. *Social Attitudes*.—Attitudes as products of social interaction, as the organization of the wishes, as behavior patterns, as social elements, and as social forces; complexes of attitudes; typical attitudes, as nationalistic, religious, familial, etc. Prerequisite: Six hours of advanced sociology. May count as philosophy if preceded by nine hours of advanced philosophy. Three lectures a week for one semester. Mr. Gettys. (Not given in 1942-1943.)

365. *Social Movements*.—Collective behavior; natural history and classification of social movements; underlying principles of their development; functions of social movements in social change. Prerequisite: Six hours of advanced sociology. Three lectures a week for one semester. Mr. Hopper.

366. *Social Control*.—Forms of social control; evolution of various types; modern problems of social control. Prerequisite: Six hours of advanced sociology. Three lectures a week for one semester. Mr. Gettys. (Not given in 1944-1945.)

367. *Principles of Sociology*.—Systematic study of the fundamental concepts and principles employed in sociological analysis. Prerequisite: Six hours of advanced sociology. Three lectures a week for one semester. Mr. Hopper. (Given for the first time in 1941-1942; not given in 1943-1944 or 1944-1945.)

369. *Sociology of Latin America*.—Sociological interpretation of the Latin-American area, involving a consideration of Latin-American history and political behavior from the point of view of sociological theory and methods of analysis. Prerequisite: Six hours of advanced sociology; or Sociology 310, and six hours of advanced courses with Latin-American content in the social sciences. A reading knowledge of Spanish is desirable but not required. Three lectures a week for one semester. Mr. Hopper. (Given for the first time in 1943-1944.)

70a.i, 70b.i. Seminar in Contemporary Sociological Literature.—Prerequisite: Six hours of advanced sociology; senior standing; consent of the Chairman of the Department. The equivalent of three lectures a week for two semesters. Mr. Gettys, Mr. Rosenquist, Mr. Sutherland, Mr. Moore, Mr. Hopper. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

371. Sociology of Interest Groups.—Classification of interests around which groups form; analysis of the interest-group structure of European-American society; sociological approach to social classes and analysis of classes in contemporary society. Prerequisite: Six hours of advanced sociology. Three lectures a week for one semester. Mr. Rosenquist. (Given for the first time in 1943-1944.)

372. Human Migration.—Types of population movement; historical treatment of world migration; internal migration; theories of migration; migration and social change. Prerequisite: Six hours of advanced sociology. Three lectures a week for one semester. Mr. Rosenquist. (Given for the first time in 1943-1944.)

373. Contemporary Social Thought.—An introduction to ideas of how society is organized and how it functions based on discussion of recent contributions; comparison of fundamental notions as to the nature and scope of sociology, with emphasis centering on the descriptive and functional approaches. Prerequisite: Six hours of advanced sociology. Three lectures a week for one semester. Mr. Moore. (Given for the first time in 1942-1943; not given in 1943-1944.)

75a.i, 75b.i. Research Methods.—Methods applicable to sociological study. Statistical methods emphasized in 75a; non-statistical methods emphasized in 75b. Prerequisite: Six hours of advanced sociology. Three lectures a week for two semesters. Mr. Rosenquist, Mr. Moore. (Not given in 1943-1944.)

76a.i, 76b.i. Seminar on Sociological Concepts.—Prerequisite: Six hours of advanced sociology; senior standing; consent of the Chairman of the Department. The equivalent of three lectures a week for two semesters. Mr. Gettys, Mr. Rosenquist, Mr. Sutherland, Mr. Moore, Mr. Hopper. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

77a.i, 77b.i. Seminar on Social Trends.—Prerequisite: Six hours of advanced sociology; senior standing; consent of the Chairman of the Department. The equivalent of three lectures a week for two semesters. Mr. Gettys, Mr. Rosenquist, Mr. Sutherland, Mr. Moore, Mr. Hopper. (Not given in 1941-1942 or 1943-1944.)

378. The Family.—History of the human family; study of the family as a changing institution in a changing social world; problems facing the modern family. Prerequisite: Six hours of advanced sociology. Three lectures a week for one semester. Mr. Gettys. (Not given in 1941-1942.)

79a.i, 79b.i. Advanced Social Theory.—History of sociology; its place among the social sciences; the development of a body of theory and method. Prerequisite: Six hours of advanced sociology. May count as philosophy if preceded by nine hours of advanced philosophy. Three lectures a week for

two semesters. Mr. Moore. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

380, 80. Research Problems.—Prerequisite: Twelve hours of advanced sociology, graduate standing, and consent of the Chairman of the Department. Mr. Gettys, Mr. Rosenquist, Mr. Sutherland, Mr. Moore. (Not given in 1942-1943.)

381, 81. Research in Population.—Prerequisite: Twelve hours of advanced sociology, graduate standing, and consent of instructor. Mr. Rosenquist. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

382, 82. Research in Social Theory.—Prerequisite: Twelve hours of advanced sociology, graduate standing, and consent of instructor. Mr. Moore. (Not given in 1941-1942, 1942-1943, or 1944-1945.)

383. Research on Social Movements.—Prerequisite: Twelve hours of advanced sociology, graduate standing, and consent of instructor. Mr. Hopper.

384, 84. Research on Institutions.—Studies in the main institutional fields: institutional change, inter-relationships, organization, values, and social objectives. Prerequisite: Twelve hours of advanced sociology, graduate standing, and consent of instructor. Mr. Gettys. (Given for the first time in 1943-1944; not given in 1944-1945.)

385, 85. Studies in Inter-Group Relations.—The processes of interaction between groups, with special reference to industrial relations, race relations, and social classes; attention given to effects of such relations upon personality development and upon community organization and functions. Prerequisite: Twelve hours of advanced sociology; graduate standing; consent of instructor. Mr. Sutherland. (Given for the first time in 1943-1944.)

98. Thesis Course for the Master's Degree.—Prerequisite: Sociology 311 and twelve hours of advanced sociology; graduate standing; consent of the Chairman of the Department. Mr. Gettys, Mr. Rosenquist, Mr. Sutherland, Mr. Moore.

99. Thesis Course for the Degree of Doctor of Philosophy.—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Gettys, Mr. Rosenquist, Mr. Sutherland, Mr. Moore.

Architecture 380, 381. Problems of Housing and Community Planning.—May be counted as sociology by students who have graduate standing in sociology. See Department of Architecture, College of Engineering catalogue. Mr. Leipziger-Pearce.

SPANISH

See Department of Romance Languages, page 161.

DEPARTMENT OF SPEECH

Ellwood Griscom, M.A., *Professor of Speech*.¹⁷⁷

Thomas Andrew Rousse, M.A., B.B.A., LL.B., *Professor of Speech; Veterans Coöordinator, University Veterans Advisory Service*.¹⁷⁸

¹⁷⁷Died May 16, 1943.

¹⁷⁸Absent on leave from March 20, 1942, to September 1, 1945; military service; appointment as *Veterans Coöordinator* effective November 1, 1945.

Ernest Randolph Hardin, M.A., *Assistant Professor of Speech*.¹⁷⁹

Jesse James Villarreal; M.A., *Assistant Professor of Speech*.¹⁸⁰

Newton Edd Miller, Jr., M.A., *Instructor in Speech*.

Howard William Townsend, M.A., B.S. in Ed., *Instructor in Speech*.¹⁸¹

Katherine Ernestine Wheatley, Ph.D., *Associate Professor of Romance Languages*.¹⁸²

Advanced courses in speech may be counted as a minor for the degree of Master of Education but not for the Master of Arts degree. Students must conform to the requirements in regard to rank of courses as specified under the Master of Education degree.

Junior Courses

320. *Advanced Argumentation and Debate Coaching*.—Prerequisite: Six hours of sophomore speech and junior standing. Three lectures a week for one semester. Mr. Rousse, Mr. Miller.

321. *Speech Problems in the Teaching of Public Speaking in Secondary Schools and Colleges*.—Same as Education 321T. Prerequisite: Six hours of sophomore speech and junior standing. Three lectures a week for one semester. Mr. Rousse, Mr. Miller.

322. *Principles and Methods of Discussion*.—Study of current forms of discussion and the practice of using group discussion in social control in a democracy. Training for leadership. Prerequisite: Six hours of speech, of which three should be Speech 305 or 319; junior standing. Three lectures a week for one semester. Mr. Miller. (Given for the first time in 1941-1942.)

23a.i, 23b. *Speech Correction*.—Prerequisite: Six hours of sophomore speech and junior standing; or Education 314 and 317, or 311 and 312. Speech 23a is prerequisite to 23b. Three lectures a week for two semesters. Mr. Villarreal.

24a.i, 24b. *Advanced Interpretation*.—Selecting and abridging literary material for platform use. Preparation and presentation of programs for special and general occasions. Prerequisite: Speech 313 or 314 or their equivalent, and junior standing. Speech 24a is prerequisite to 24b. Three lectures a week for two semesters. Mr. Hardin. (Given for the first time in 1942-1943.)

25a.i, 25b.i. *Seminar in Speech*.—Prerequisite: Six hours of sophomore speech. Three lectures a week for two semesters. Mr. Griscom, Mr. Hardin. (Not given in 1942-1943 or 1943-1944.)

¹⁷⁹Appointment changed from *Instructor* to *Assistant Professor*, effective September 15, 1942.

¹⁸⁰Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1943.

¹⁸¹Absent on leave for 1941-1942 and 1944-1945; appointment also as *Special Instructor in English* for the period September 23, 1943, through October 31, 1943.

¹⁸²Absent on leave for the Fall Term of 1944-1945 and from September 1, 1945, to December 1, 1945.

326. Radio Announcing.—A study of the requirements, styles, and types of announcing. Prerequisite: Speech 318K or consent of instructor. Three lectures and two laboratory hours a week for one semester. (Given for the first time in 1943–1944.)

27a.i, 27b.i. Advanced Speech.—Prerequisite: Six hours of sophomore speech; junior standing. Three lectures a week for two semesters. Mr. Hardin. (Given also as Speech 427 in 1943–1944; not given in 1941–1942 or 1944–1945.)

328. Oratory.—Prerequisite: Twelve hours of speech. Three lectures a week for one semester. Mr. Townsend. (Not given in 1944–1945.)

329. History of American Oratory.—Prerequisite: Speech 328. Three lectures a week for one semester. Mr. Townsend. (Not given in 1944–1945.)

330. English Phonetics and American Dialects.—Same as English 330K. Speech 330 may not be counted by students with credit for Speech 311K, English 311, or English 330K. Prerequisite: Junior standing. Three lectures a week for one semester. Miss Wheatley.

333. Pulpit Speaking.—Vocal problems of the minister; sermon delivery; types of speaking for ministers, including oral interpretation, group discussion, informal talks. Prerequisite: Junior standing, three hours of speech, and consent of instructor. Three lectures a week for one semester. Mr. Miller. (To be offered for the first time in 1945–1946.)

DEPARTMENT OF ZOOLOGY AND PHYSIOLOGY

John Thomas Patterson, Ph.D., Sc.D., M.N.A.S., *Professor of Zoology; Director of Research in Zoology and in Genetics.*

Dana Brackenridge Casteel, Ph.D., *Professor of Zoology.*

Theophilus Shickel Painter, Ph.D., Sc.D., M.N.A.S., LL.D., *Acting President; Professor of Zoology.¹⁸³*

Elmer Julius Lund, Ph.D., Sc.D., *Professor of Physiology; Director of the Institute of Marine Science.*

Wilson Stuart Stone, Ph.D., *Professor of Zoology.¹⁸⁴*

Allen Beattie Griffen, Ph.D., *Associate Professor of Zoology.¹⁸⁵*

Hilda Florence Rosene, Ph.D., *Associate Professor of Physiology.¹⁸⁶*

¹⁸³Appointment as *Acting President* effective November 1, 1944.

¹⁸⁴Appointment changed from *Associate Professor* to *Professor*, effective September 15, 1942; absent on leave from September 15, 1942, to September 1, 1945, military service.

¹⁸⁵Resignation effective September 1, 1945.

¹⁸⁶Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1943.

Robert Edward Hungate, Ph.D., *Associate Professor of Zoology; Research Biologist, Biochemical Institute.*¹⁸⁷

Austin Phelps, Ph.D., *Assistant Professor of Physiology.*¹⁸⁸

Jack Edgar Myers, Ph.D., *Assistant Professor of Physiology.*

Osmond Philip Breland, Ph.D., *Assistant Professor of Zoology.*¹⁸⁹

Linda Terry Wharton, Ph.D., *Instructor in Zoology.*¹⁹⁰

Facilities for Graduate Study

Within the Department of Zoology and Physiology, major and minor work is offered leading to the degrees of Master of Arts and Doctor of Philosophy. The Department occupies a portion of the Biological Laboratory Building in which are provided modern facilities for biological research, such as constant temperature rooms, dark rooms and photographic apparatus, special physical apparatus for work in physiology, extensive microscopic equipment, suitable provisions for experimental genetics, and a well-equipped shop with mechanic.

The library facilities in the biological sciences are exceptionally good. For many years the library has consistently followed the policy of completing its journal sets and securing additional serials. About 275 are now on our subscription list; and these include the more important zoological journals of the world, together with those devoted to the special fields of genetics and physiology, the latter being extensively supplemented by the botanical, chemical, and physical libraries. In addition to journals, the library contains the more important systematic and other reference books.

The Southwest offers exceptional opportunities for the study of animals because of the large variety of tropical and subtropical species which have come into this region from Mexico and the Central-American States. In addition to this, the City of Austin is so located that within a few miles of the University one may obtain the typical fauna of either the black prairie lands or the Edwards Plateau.

Courses

The courses offered by the Department are listed here in two groups corresponding in general to the major fields.

Zoology.—The courses in Zoology offer a basic background in fundamental systematics, morphology, and embryology. Advanced and specialized training

¹⁸⁷Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1943; appointment also as *Research Biologist* for 1943-1944 and 1944-1945; resignation effective September 1, 1945.

¹⁸⁸Absent on leave from September 15, 1942, to October 1, 1945; military service.

¹⁸⁹Appointment changed from *Instructor* to *Assistant Professor*, effective September 15, 1942; absent on leave, effective April 20, 1943, military service.

¹⁹⁰Appointment effective September 15, 1942.

for a major may be had in general zoology, entomology, cytology, embryology, and genetics. The best selection of courses and minors may be made through consultation with the supervising professors.

Physiology and Biophysics.—The courses are divided into two groups:

Applied.—Courses 824a.i, 24b.i, and 325 furnish a background in human and other mammalian physiology and physiological anatomy, emphasizing the applied aspects. Course 87 is research in applied human physiology. Course 464 is primarily for teachers and emphasizes physiological aspects in ecology.

Advanced.—Courses 824a.i, 24b.i, 325, 231, 232, 37, 67, 368, 371, 374, 79, 385, and 86 lead to advanced degrees in physiology and biophysics. These courses are a detailed application of the principles of chemistry and physics to life processes and deal with origin, transformation, and transfer of *chemical, mechanical, heat, electrical, and radiant* energy in organisms. This more modern treatment cuts across but includes conventional divisions, such as the classical organ physiology of mammals and the artificial divisions of animal and plant physiology. Majors in physiology and biophysics should consult with the instructors in physiology and plan early to select suitable basic courses in chemistry, physics, zoology, and botany before entering the advanced courses in physiology. An elementary knowledge of calculus will be useful.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Doctor of Philosophy degree see pages 25 to 28.

The particular courses which should be taken by the graduate student majoring in zoology or physiology will depend on his previous preparation and on the special field in which he is interested. Advice should be sought early from members of the department concerned with graduate instruction. For minor work the student should present at least one natural science.

While course sequences are not fixed, the important general prerequisite for students majoring in the field of physiology is a knowledge of the essentials of morphology, life histories, and evolution of organisms as represented in the stem courses in zoology, botany, and bacteriology; minors should preferably be taken in chemistry and physics. Physiology 37, *General Physiology*, or Botany 837, is prerequisite to graduate courses in physiology. Candidates for the Doctor of Philosophy degree in the field of physiology must pass their examinations in foreign languages two full years before the degree is to be conferred.

In addition to the thesis, each student majoring in zoology or physiology for the master's degree will be expected to choose as much of his work at the senior and graduate level as is consistent with a good graduate program. In order to count a junior course on the master's degree, the student must have the approval of both the Chairman of the Department and the Dean of the Graduate School prior to or at the time of registration.

ZOOLOGY

Junior Courses

320. *Cellular Biology*.—Cell phenomena, such as the structure of the cell, maturation, fertilization, sex-determination, cell division. Prerequisite: Zoology 14; for juniors and seniors, Zoology 1 completed with a grade of at least C and Zoology 14 in parallel. Zoology 14 must be completed before 320 can be counted toward the degree. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Patterson.

321. *Vertebrate Embryology*.—Development of typical vertebrates with emphasis on the development of the chick and a mammal. Prerequisite: Zoology 14; for juniors and seniors, Zoology 1 completed with a grade of at least C and Zoology 14 in parallel. Zoology 14 must be completed before 321 can be counted toward the degree. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Patterson.

325. *Heredity*.—Zoology 325 and 316 may not both be counted. Principles of heredity in their application to animals, plants, and man. For majors in biological sciences and any other students who desire a fundamental knowledge of the principles of genetics. Prerequisite: Six hours of biological science and junior standing. Three lectures a week for one semester. Mr. Stone, Miss Wharton.

327. *Human Heredity and Eugenics*.—Facts of human heredity, variation and selection under differing conditions. The effectiveness of negative and positive eugenics. Designed for students in education and in biological and social sciences. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Stone, Miss Wharton.

329. *Experimental Biology*.—Same as Botany 329. A practical laboratory course in techniques. Emphasis is placed on correct performance and interpretation of laboratory experiments. Prerequisite: Twelve hours of botany or zoology. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Hungate. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

332. *Advanced Invertebrate Zoology*.—Comparative anatomy and embryology of invertebrate animals; life histories, behavior, relationships within the group. Prerequisite: Zoology 1, Physiology 6, or Biology 1 or 801, and six hours of sophomore botany and/or zoology. Two lectures, two laboratory-demonstration hours, and additional required outside work of at least one hour a week for one semester. Laboratory fee, \$2. Mr. Casteel. (Not given in 1943-1944 or 1944-1945.)

333. *Entomology*.—Structures, classification, modes of development, life histories, and behavior of insects. Prerequisite: Zoology 1, Physiology 6, or Biology 1 or 801, and six hours of sophomore botany and/or zoology. One lecture, five laboratory and field hours, and additional required outside work of at least one hour a week for one semester. Laboratory fee, \$2. Mr. Casteel. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

334. *Systematic and Field Entomology*.—Collection and classification of insects, and consideration of the ecological aspects of insect life. Lectures, laboratory, and field work. Prerequisite: Zoology 333. One hour of either lecture or consultation and six laboratory and field hours a week for one semester. Laboratory fee, \$2. Mr. Breland. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

Senior and Graduate Courses

370. *Seminar in Experimental Zoology and General Cytology*.—May be repeated for credit. Presentation of research work and critical reviews of recent important papers. Primarily for graduate students but open to undergraduates who have had adequate preliminary training. Prerequisite: Six hours of advanced zoology or botany. One seminar period a week for two semesters. Staff of the Department. (Not given in 1943-1944 or 1944-1945.)

72. *Experimental Genetics*.—Students with credit for Zoology 426 or 326 may not receive credit for Zoology 72a, but they may take 72b as an independent three-hour course. Study of recent work and theoretical developments in animal and plant genetics and evolution, planned for senior and graduate students. Required for all advanced study in genetics. Prerequisite: Eighteen hours in biological science, including Zoology 320 and 325. Two lectures and three laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Stone, Mr. Griffen.

376. *Principles of Histological and Cytological Technique*.—Essentially a methods course designed to instruct teachers of biological science in histological and cytological techniques and to acquaint the graduate student with laboratory and library procedures. Prerequisite: Six hours of advanced zoology or botany. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Painter.

377. *Advanced Zoology*.—Lectures dealing with some of the more important phases of modern zoology together with extensive collateral reading. Prerequisite: Six hours of advanced zoology. Three lectures a week and assigned readings and reports for one semester. Mr. Painter.

It is not anticipated that the following courses will all be given in the same year. The selections will depend on the needs and wishes of the students applying.

A student may register for additional hours of credit in any of the following graduate courses.

80. *Cytology*.—Selected topics in the field of cytology. Conducted on the seminar plan. Prerequisite: Twelve hours of advanced zoology; graduate standing or consent of instructor. Two seminar periods a week for two semesters. Laboratory fee, \$4. Mr. Painter. (Not given in 1944-1945.)

84. *Problems in Zoology*.—Prerequisite: Adequate preliminary work, graduate standing in zoology, and consent of instructor. Laboratory fee, \$4. (1) Invertebrates. Mr. Casteel. (2) Entomology. Mr. Casteel, Mr. Breland. (3) Experimental biology. Mr. Hungate. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

85. *Problems in Embryology and Experimental Genetics.*—Prerequisite: Twelve hours of advanced zoology; graduate standing or consent of instructor. Satisfactory progress in both seminar and research work is necessary for credit in this course. Laboratory fee, \$4. Mr. Patterson, Mr. Stone.

88. *Problems in Cytogenetics.*—Seminar and laboratory hours, with particular emphasis on experimental studies in the genetic effects of irradiation. Prerequisite: Zoology 72, registration for Zoology 80, graduate standing, and consent of instructor. Two lectures and three laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Griffen. (Given for the first time in 1942-1943; not given in 1943-1944.)

98. *Thesis Course for the Master's Degree.*—Prerequisite: Graduate standing in zoology. Mr. Patterson, Mr. Casteel, Mr. Painter, Mr. Stone, Mr. Griffen, Mr. Hungate.

99. *Thesis Course for the Degree of Doctor of Philosophy.*—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Patterson, Mr. Casteel, Mr. Painter.

PHYSIOLOGY

Junior Courses

824a.i. *Applied Human Anatomy and Kinesiology.*—Emphasis on an understanding of the structural organization of the human body and the analysis of human motion. The laboratory includes studies on human cadaver material. Prerequisite: For academic students, twelve hours of physiology, zoology, botany, or bacteriology, six of which must be of at least sophomore rank; for education students, Physiology 6, credit or registration for Chemistry 801 or 5, and junior standing. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$4. Miss Rosene. (Prior to 1945-1946 given as the first half of Physiology 24.)

24b.i. *Human Physiology.*—Muscle and nervous systems, blood and lymph, circulation, respiration. Lectures and demonstrations; experiments on human subjects. Includes the physiology of exercise. Prerequisite: For academic students, twelve hours of physiology, zoology, botany, or bacteriology, six of which must be of at least sophomore rank, and Chemistry 801 or 5; for students in education, Physiology 6 and 824a, Chemistry 801 or 5, and junior standing. May count for senior credit if preceded by six hours of advanced physiology, chemistry, zoology, or bacteriology. It is desirable that physical education students precede this course with Physiology 423. Three lectures and two laboratory hours a week for one semester. Laboratory fee, \$2. Miss Rosene. (To be given as Physiology 24b.i for the first time in 1945-1946.)

[24. *Applied Human Anatomy and Physiology.*—Muscle and nerve physiology, metabolism, blood, respiration, circulation, results of exercise. Experiments with human subjects. Correlated presentation of regional and applied anatomy. Prerequisite: For academic students, twelve hours of physiology, zoology, or botany, and Chemistry 801 or 5; for students in education, Physiology 6, Chemistry 801 or 5, and junior standing. Two lectures, one quiz,

and two laboratory hours a week for two semesters. Laboratory fee, \$4. Miss Rosene. (To be given as two independent courses, Physiology 824a.i and 24b.i, beginning in 1945-1946.)]

325. *Human Physiology*.—Digestive system, secretion, excretion, metabolism and nutrition, endocrine glands, reproduction, special senses. Prerequisite: Physiology 24b. May count as a senior course if preceded by six hours of advanced physiology, chemistry, zoology, or bacteriology. Three lectures a week for one semester. Miss Rosene. (To be offered for the first time in the Summer Term, 1945.)

321. *Methods in Physiology; Physico-Chemical Techniques*.—Quantitative measurements in physiology and biophysics; surface and osmotic energies, oxidation-reduction, hydrogen ion, velocity of cellular processes. Prerequisite: Twelve hours of botany, bacteriology, physiology, or zoology, and six hours of chemistry or physics. One lecture and four laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Myers. (Given for the first time in 1944-1945.)

322. *Methods in Physiology*.—Continuation of quantitative measurements in physiology and biophysics, with special relationship to the processes of metabolism. Prerequisite: Physiology 231. One lecture and four laboratory hours a week for one semester. Laboratory fee, \$2. Physiology staff. (Offered for the first time in 1944-1945 but not yet given.)

37a.i. *Cellular Physiology*.—Applications of the theory of solutions to plant and animal cells; surface and osmotic phenomena; ions; permeability; transport of water and nutrients in plants and animals; colloid chemistry of growth; differentiation; molecular structure of living protoplasm. Prerequisite: Twelve hours of physiology, zoology, botany, or bacteriology, and six hours of chemistry or physics. May count as a senior course if preceded by six hours of advanced physiology, chemistry, zoology, botany, or bacteriology. It is recommended that this course be accompanied by Physiology 231. Three lectures a week for one semester. Mr. Lund. (Formerly the first half of Physiology 837; given as 37a.i for the first time in 1944-1945.)

37b. *Comparative Physiology of Plant and Animal Functions*.—Prerequisite: Physiology 37a. May count as a senior course if preceded by six hours of advanced physiology, chemistry, zoology, botany, or bacteriology. It is recommended that this course be accompanied by Physiology 232. Three lectures a week for one semester. Mr. Lund. (Formerly the last half of Physiology 837; given as 37b for the first time in 1944-1945.)

[387. *General Physiology*.—Same as Botany 837. Application of theory of solutions to cell activity, structure of living protoplasm and colloids; differentiation; permeability; cell oxidation; photosynthesis; nutrition translocation in plants and animals. Prerequisite: Twelve hours of physiology, zoology, or botany, and six hours of chemistry or physics. Two lectures and six laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Lund. (Not given in 1943-1944; beginning in 1944-1945, given as Physiology 37a.i and 37b.)]

Senior and Graduate Courses

464. Physiological Ecology: Teaching Techniques for the Analyses of Animal and Plant Habitats.—To provide experience in the field and laboratory which may be utilized in science teaching; investigations of the natural surroundings of plants and animals. Prerequisite: For education students, six hours of advanced education and twelve hours of science; for academic students, six hours of advanced botany, physiology, or zoology, and six hours of chemistry or physics. Two lectures, five laboratory hours, and additional required outside work of at least one hour a week for one semester. Laboratory fee, \$4. Miss Rosene. (Not given in 1941-1942 or 1944-1945; given also as Physiology 64 in 1943-1944.)

67a.i. Stimulus and Response.—Principles governing energy income and outgo in organisms. A comprehensive formulation of all dynamics of living matter into a system of knowledge which constitutes biophysics. Prerequisite: Physiology 37 or 837. Three lectures a week for one semester. Laboratory fee, \$2. Mr. Lund. (Not given in 1941-1942, 1942-1943, or 1944-1945.)

67b.i. Biomechanics and Biocalorimetry.—Heat changes accompanying different metabolic processes. Comparative physiology and basal metabolism, regulation of temperature, heat production, and effects of temperature on life processes. Transformation of chemical potential energy into mechanical work. Techniques for measurement. Prerequisite: Physiology 37 or 837. Three lectures a week for one semester. Laboratory fee, \$2. Mr. Lund. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

368. Comparative Physiology of Nutrition and Growth.—Transformation of compounds in type examples of cells and organisms. Analysis of the mechanism for income, transformation, and outgo of the bioelements. Special emphasis is placed on interrelations with the environment. Prerequisite: Physiology 37 or 837 or Botany 837. Two lectures and one conference period a week for one semester. Mr. Phelps. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

371. General Physiology and Biophysics Seminar.—May be repeated for credit. Prerequisite: Senior standing and consent of the staff. One seminar period a week for two semesters. Physiology staff. (Not given in 1942-1943.)

374. Radiation and Life Processes.—Principles governing absorption and emission of radiant energy by biological systems. Special emphasis on photosynthesis and the photochemistry of the visual process. Prerequisite: Physiology 837, or six hours of zoology or botany and twelve hours of advanced chemistry or physics; consent of instructor. Three lectures a week for one semester. Mr. Myers. (Not given in 1941-1942, 1942-1943, or 1944-1945.)

79. Bio-electric Processes.—Origin of electric potentials and transformation of electrical energy in living cells and organisms. Evolution and function of bio-electric currents and fields. Prerequisite: Physiology 37 or 837, and consent of instructor. Three lectures a week for two semesters. Mr. Lund. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

A student may register for additional hours of credit in any of the follow graduate courses.

385. Physiology of Absorption, Translocation, and Transpiration in Plants.—Lectures, demonstration experiments, and research. Prerequisite: Twelve hours of advanced biological science, twelve hours of chemistry or physics, and graduate standing or consent of instructor. Two lectures and six laboratory hours a week for one semester. Laboratory fee, \$2. Miss Rosene. (To be offered for the first time in the Summer Term, 1945.)

86. Problems in Physiology.—Prerequisite: Physiology 37 or 837; any one of the following: Physiology 67, 368, 374, 79, 385; graduate standing and consent of instructor. Laboratory fee, \$4. (1) Electrodynamics of living cells and organisms. Mr. Lund. (2) Biological effects of radiant energy. Mr. Myers. (3) Biomechanics and biocalorimetry of cells and organisms. Miss Rosene. (Not given in 1942-1943 or 1943-1944.)

87. Problems in the Physiology of Exercise.—Prerequisite: Six advanced hours in human physiology or anatomy (Physiology 24a, 824a, 24b, or 325) and six additional advanced hours in physiology, zoology, bacteriology, or physical education; graduate standing or consent of instructor. Laboratory fee, \$4. Miss Rosene. (Not given in 1942-1943.)

98. Thesis Course for the Master's Degree.—Prerequisite: Graduate standing in physiology. Mr. Lund, Miss Rosene, Mr. Myers.

99. Thesis Course for the Degree of Doctor of Philosophy.—Prerequisite: Admission to candidacy for the doctor's degree. Mr. Lund.

COLLEGE OF BUSINESS ADMINISTRATION*

James Anderson Fitzgerald, Ph.D., *Professor of Banking and Insurance; Dean of the College of Business Administration.*

Alonzo Bettis Cox, Ph.D., LL.D., *Professor of Cotton Marketing; Director (ad interim) of the Bureau of Business Research.¹⁹¹*

Edward Karl McGinnis, B.A., J.D., *Professor of Business Law and Real Estate.* Ambrose Paré Winston, Ph.D., *Professor of International Trade.¹⁹²*

Chester Frederic Lay, Ph.D., C.P.A., *Professor of Accounting and Management.¹⁹³*

George Hillis Newlove, Ph.D., C.P.A., *Professor of Accounting.*

James Clay Dolley, Ph.D., *Vice-President; Professor of Banking and Investments.¹⁹⁴*

*The School of Business Administration has been changed to the College of Business Administration effective July, 1945.

¹⁹¹Appointment as *Director of the Bureau of Business Research* changed to *Director (ad interim)* for the session of 1944-1945; served as *Director* for the period September 1, 1945, through September 30, 1945.

¹⁹²Modified service. Absent on leave for the Fall Term of 1943-1944 and 1945-1946.

¹⁹³Resignation effective December 31, 1944.

¹⁹⁴Absent on leave from September 1, 1944, to May 15, 1945; appointment as *Vice-President* effective May 15, 1945.

Erich Walter Zimmermann, Ph.D., *Professor of Resources.*¹⁹⁵

Everett Grant Smith, B.S., M.B.A., *Professor of Marketing.*

Charles Aubrey Smith, Ph.D., C.M.A., C.P.A., *Professor of Accounting; Acting Director of the Bureau of Business Research.*¹⁹⁶

John Hutchinson Frederick, Ph.D., *Professor of Transportation and Industry.*

Watrous Henry Irons, Ph.D., *Professor of Banking and Finance.*¹⁹⁷

John Arch White, Ph.D., *Professor of Accounting.*¹⁹⁸

John Robert Stockton, Ph.D., *Professor of Business Statistics; Statistician, Bureau of Business Research.*¹⁹⁹

Robert Warren French, Ph.D., *Professor of Business Administration; Director of the Bureau of Business Research.*²⁰⁰

Pablo Maximiliano Ynsfran, Bachiller en Ciencias y Letras, Escribano Público, Corresponding Member of the Spanish Academy, *Visiting Professor of Business Administration; Visiting Professor of Romance Languages; Lecturer in Law.*²⁰¹

William Paxton Boyd, M.A., *Associate Professor of Business Writing and Advertising.*²⁰²

William Ahlers Nielander, M.S., *Associate Professor of Marketing.*²⁰³

Franklin Lanier Cox, B.B.A., LL.B., *Associate Professor of Business Law.*²⁰⁴

Florence Mae Stullken, B.A., M.B.A., *Assistant Professor of Business Administration.*

Hubert Blackburn Jones, B.A., M.B.A., *Assistant Professor of Business Administration; Associate Veterans Coöordinator, University Veterans Advisory Service.*²⁰⁵

¹⁹⁵Appointment effective September 15, 1942.

¹⁹⁶Absent on leave for 1941-1942; appointment as *Acting Director of the Bureau of Business Research* for the period October 1, 1945, through January 31, 1946.

¹⁹⁷Appointment changed from *Associate Professor* to *Professor*, effective September 15, 1942; absent on leave from March 4, 1942, through June 15, 1942, for the sessions of 1942-1943, 1943-1944, and 1945-1946, and for the Fall Term of 1944-1945.

¹⁹⁸Absent on leave from February 1, 1943, to November 1, 1944; appointment changed from *Associate Professor* to *Professor*, effective September 1, 1945.

¹⁹⁹Absent on leave for the second semester of 1941-1942; absent on leave from September 15, 1942, to February 6, 1946, military service. Appointment as *Statistician, Bureau of Business Research*, effective February 6, 1946.

²⁰⁰Appointment as *Director of the Bureau of Business Research* effective February 1, 1946; appointment as *Professor of Business Administration* effective March 1, 1946.

²⁰¹Appointment as *Lecturer, Institute of Latin-American Studies*, for the second semester of 1941-1942; for 1942-1943, as *Professor, Institute of Latin-American Studies*; for 1943-1944, as *Visiting Professor, Institute of Latin-American Studies; Visiting Professor of Government*; for 1944-1945, as *Visiting Professor and Research Associate, Institute of Latin-American Studies*; for 1945-1946, as *Visiting Professor of Romance Languages; Visiting Professor of Business Administration; Lecturer in Law.*

²⁰²Absent on leave from September 15, 1942, to September 1, 1945; military service.

²⁰³Absent on leave for 1941-1942, 1942-1943, 1943-1944, 1944-1945, and 1945-1946.

²⁰⁴Absent on leave from September 1, 1943, to January 1, 1946; military service.

²⁰⁵Appointment as *Associate Veterans Coöordinator* effective September 1, 1944.

William Robert Bandy, B.A., LL.B., *Assistant Professor of Business Administration.*²⁰⁶

Halsey Norman Broom, B.S., M.B.A., *Instructor in Business Administration.*²⁰⁶

Keith Davis, M.B.A., *Instructor in Business Administration.*²⁰⁶

Elton Bernard Hale, M.A., *Instructor in Business Administration.*²⁰⁷

William James Hudson, M.B.A., *Instructor in Business Administration.*²⁰⁶

William Henry Purdy, B.S., *Lecturer in Marketing.*²⁰⁶

Stella Traweek, M.B.A., *Instructor in Business Administration.*

Charles Theodore Zlatkovich, M.B.A., *Instructor in Business Administration.*²⁰⁸

Louis Kohl Brandt, Ph.D., *Assistant Professor of Economics.*²⁰⁹

Willard Hughes Brentlinger, M.A., *Assistant Professor of Psychology.*²¹⁰

Wade Lynn Brown, Ph.D., *Assistant Professor of Psychology.*²¹¹

Jack Greer Taylor, M.B.A., *Assistant Investment Officer.*²¹²

Paul Jennings Thompson, B.J., M.B.A., *Professor of Journalism.*

Facilities for Graduate Study

Many additions in the field of business administration are made each year to the University Library. Other libraries are also available for the use of students.

The Bureau of Business Research, established in 1926, offers students an opportunity to participate in its investigations. The Bureau has already assembled a valuable collection of materials. There are a few research assistantships in the Bureau of Business Research which pay up to \$750 a year. These are available to graduate students. Applications should be made to Director R. W. French.

Degree Requirements

General prerequisites and requirements.—For the degree of Master in Business Administration see pages 34 to 36. For the degree of Doctor of Philosophy see pages 25 to 28.

Specific prerequisites and requirements.—For the degree of Master in Business Administration the student prepares a program of courses with a view to specialization in some division of the work of the College, such as accounting, finance, international trade, management, marketing, resources, statistics, or transportation. The courses and their sequence must be approved by the Dean.

²⁰⁶Appointment effective March 1, 1946.

²⁰⁷Appointment effective November 1, 1945.

²⁰⁸Appointment for 1941-1942; reappointment effective March 1, 1946.

²⁰⁹Appointment effective September 15, 1942; resignation effective September 15, 1945.

²¹⁰Absent on leave for 1944-1945 and 1945-1946.

²¹¹Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1943.

²¹²Absent on leave from April 1, 1944, to January 1, 1946, military service; appointment changed from *Investment Analyst* to *Assistant Investment Officer*, effective January 1, 1946.

In addition to the general regulations for the degree of Doctor of Philosophy, the following rules apply to students majoring in business administration, except those specializing in resources:

1. The preparation for graduate work must include twelve semester hours of economics, including, unless they are provided for in the minor, a course in the economic history of the United States and an advanced course in economic theory; and thirty semester hours of business administration, including some work in accounting, business law, finance, marketing, and statistics, or a training along similar pre-business lines (for example, in economics or engineering administration), of quantity and quality satisfactory to the Faculty of Business Administration.
2. The candidate's program must include at least three fields within the College of Business Administration and a minor outside the College of Business Administration.
3. In pursuing both major and minor subjects the candidate may choose approved courses in other departments provided they are in his field of study.
4. The student is to be formally admitted to candidacy for the Doctor of Philosophy degree immediately after being certified as having passed the qualifying examinations. These examinations are intended to demonstrate the student's familiarity with business and economic conditions, his knowledge of the principles and tools of business administration, and his power to attack business problems. They must be taken not later than the first month of the fourth semester of graduate study. They shall cover the fields of accounting, statistics, and at least two other divisions of business administration. These examinations shall be given by a special committee consisting of five associate or full professors of the staff appointed by the Dean of the College of Business Administration, with the understanding that any other associate or full professor of the staff is privileged to participate in the examining. The examinations may be oral or written or partly oral and partly written, at the option of the committee. The committee shall certify promptly the results of the examinations to the Dean of the College of Business Administration for transmission to the Dean of the Graduate School. Should a student fail to pass the qualifying examinations, he shall not be eligible for re-examination for at least one year.
5. Prior to the selection of a professor to supervise the student's dissertation, the preliminary planning of the student's program shall be in the hands of the Dean of the College of Business Administration and of the Dean of the Graduate School. The program thus planned shall be recorded in writing for subsequent transmission to the supervisory committee of the candidate. Ordinarily the supervising professor should be appointed before the beginning of the fourth semester of graduate work.
6. At least eight months before the degree is conferred, the candidate must pass satisfactory comprehensive general examinations (termed final written examinations, page 27) covering his major and minor fields. The general examinations are to be administered by the supervisory committee of the candidate. They may be written or partly oral and partly written, at the

option of the committee. The results of the general examinations shall be certified promptly to the Dean of the Graduate School. A candidate failing to pass the general examinations will not be eligible for re-examination until specific permission has been granted by the supervisory committee.

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To facilitate the use of this section, in which the courses are arranged according to subject matter, a list of course numbers in numerical order by rank is given below, with page references to the course descriptions.

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357	200	368N	197	390	198
358	201	368T	208	91	209
361K	199	369	208	392	198
361L	199	369P	208	393	198
361M	199	370	208	94	212
361P	199	370D	208	395	207
361R	199	370K	208	97	209
361T	199	370P	209	98	210
362	191	271	202	99	210
362K	192	371R	211	Eco. 332	197
362L	192	372H	213	Ed. 78	212
362M	192	372J	213	Ed. 378M	212
362P	192	372K	209	P.M. 45	201
362R	192	372L	213	P.M. 47	201

ACCOUNTING**Junior Courses**

326. Intermediate Accounting, First Course.—Form and content of balance sheet, profit and loss statement and statement of surplus; cash and receivables; merchandise and factory inventories; investments and funds; cost, depreciation, and appreciation of fixed assets; liabilities; practical problems. Prerequisite: Business Administration 811. Three lectures a week for one semester. Mr. White, Mr. Zlatkovich.

[*326K. Intermediate Accounting, Abridged.*—Covers basically the same ground as Business Administration 326 and 327 but emphasizes financial accounting principles rather than accounting practice. Not recommended for those expecting to pursue a professional career in accounting. Prerequisite: Business Administration 811. Three lectures a week for one semester. Mr. C. A. Smith. (Given in 1942-1943 only.)]

326L. Accounting Procedures.—Business Administration 326L and 365K may not both be counted. Survey of the usual accounting procedures and office methods of industrial companies of this area. The following procedures will be stressed: purchasing and receiving; labor and pay roll; sales, billing, shipping, and accounts receivable; cash receipts and disbursements; material and inventory control; subsidiary ledgers and auxiliary records; internal statistics. Uses of mechanical equipment. Illustrative function charts, flow charts, and business papers applicable to small as well as large organizations. Particular attention will be devoted to transactions and procedures of certain defense industries within the state. Prerequisite: Three semester hours of advanced accounting. Three lectures a week for one semester. Mr. C. A. Smith. (Not given in 1944-1945).

327. Intermediate Accounting, Second Course.—Comparative statements; correction of errors; applications of funds; variations of net profits, budgetary statements; consolidated balance sheets; foreign branches and subsidiaries; practical problems. Prerequisite: Business Administration 326. Three lectures a week for one semester. Mr. White, Mr. Broom, Mr. Zlatkovich.

329. Cost Accounting, First Course.—Accounting for material, labor and burden under job costs; continuous process and assembly systems; commercial and distribution costs. Prerequisite: Business Administration 811. Three lectures a week for one semester. Mr. Newlove, Mr. Broom.

Senior and Graduate Courses

362. Auditing Principles.—Auditing theory, practice, and procedure; internal audit control; balance sheet and detailed audits; working papers and reports. Prerequisite: Six hours of advanced accounting, including Business Administration 326. Three lectures a week for one semester. Mr. C. A. Smith.

362K. Governmental and Municipal Accounting.—Business Administration 362K and 330 may not both be counted. Application of accounting principles and systems to the requirements of governmental units, state, county, and municipal, with emphasis on budgetary and fund accounts. Prerequisite: Business Administration 811 and four hours of advanced business administration or government. Three lectures a week for one semester. Mr. C. A. Smith.

362L. Public Budgeting and Financial Reporting.—Significance and general aspects of public budgeting and financial reporting. Budget preparation, adoption, statements, records, accounting procedures, and methods of day-to-day control of budgetary operations and of reporting the progress of the budget, and related problems. Prerequisite: Business Administration 811, or six hours of governmental administration, management, or administrative law. Three lectures a week for one semester. (Offered for the first time in 1942-1943 but not yet given.)

362M. Advanced Auditing.—Business Administration 362M and 383 may not both be counted. The case method of instruction applied to auditing situations and problems; solution of short problems with emphasis on special and financial investigations; preparation of complete working papers and resulting audit report of a given enterprise. Prerequisite: Fourteen hours of advanced accounting, including Business Administration 362. Three lectures a week for one semester. Mr. C. A. Smith. (Not given in 1942-1943 or 1944-1945.)

362P. Petroleum Accounting.—Application of accounting principles and internal control procedures in the producing, refining, and distributive phases of the oil industry; especial attention to depletion, inventories, and federal taxes; cases and problems. Prerequisite: Six hours of advanced business administration, including Business Administration 326. Three lectures a week for one semester. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

362R. Specialized Accounting.—Adaptation of general accounting principles as found in use in various kinds of businesses. Prerequisite: Six hours of advanced accounting. Three lectures a week for one semester. Mr. C. A. Smith. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

362T. Interpretive Accounting.—Analysis and interpretation of accounting statements and departmental reports; graphic presentation of accounting data; the use of internal statistics as an accounting aid; development of accounting and statistical aids to all departments of a business, emphasizing sales, purchasing, manufacturing, financing, and general administration. Prerequisite: Business Administration 811 and 432. Three lectures a week for one semester. Mr. Broom. (To be offered for the first time in the Summer Term of 1946.)

363. C.P.A. Problems.—Solution of problems in regular C.P.A. examinations and by the American Institute of Accountants. Prerequisite: Eleven hours

of advanced business administration, including Business Administration 327. Three lectures a week for one semester. Mr. Newlove. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

363K. Cost Accounting, Second Course.—Estimating cost systems; "ideal" standard cost systems; "basic" standard cost systems; standard distribution costs. Prerequisite: Six hours of advanced accounting, including Business Administration 329. Three lectures a week for one semester. Mr. Newlove.

363L. Advanced Accounting, First Course.—Business Administration 363L and 381 may not both be counted. Advanced phases of accounting for preferred stock, treasury stock, surplus and surplus reserves, non-surplus reserves and fixed asset appraisals, periodicity and realization of income. Prerequisite: Eleven hours of advanced accounting. Three lectures a week for one semester. Mr. Newlove.

363M. Mergers and Consolidated Statements.—Business Administration 363M and 381K may not both be counted. Accounting for holding companies and investment trusts, consolidated balance sheets, consolidated income and surplus statements, and foreign subsidiaries. Prerequisite: Twelve hours of advanced accounting. Three lectures a week for one semester. Mr. Newlove.

363R. Fiduciary Accounting.—The accounting for partnership liquidation, joint ventures, syndicates, agencies, corporate trustees, executors, administrators, and receivers. Prerequisite: Eleven hours of advanced accounting. Three lectures a week for one semester. Mr. Newlove. (Formerly a graduate course, Business Administration 386K; to be given as Business Administration 363R for the first time in 1945-1946.)

363T. Accounting and Valuation.—The legal, economic, mathematical, and accounting aspects of valuation. Prerequisite: Twelve hours of advanced accounting. Three lectures a week for one semester. Mr. Newlove. (Formerly a graduate course, Business Administration 381K; to be given as Business Administration 363T for the first time in 1947-1948.)

364. Income Tax Accounting and Procedure.—Relation of federal income tax to individuals, to business management, and to accounting principles and practice; solution of problems met by accountants and employees of the Federal Government; practice in preparation of individual and corporation returns. Other federal taxes, including social security taxes, more briefly considered. Prerequisite: Business Administration 326 and 23a. Three lectures a week for one semester. Mr. C. A. Smith. (Given as Business Administration 64a.i and 64b.i in 1943-1944.)

[*64a.i. Federal Income Taxes on Individuals.*—Duties imposed by law and Treasury regulations. Taxable and non-taxable income distinguished. Special accounting requirements and options. Tax deductions and credits. Practice preparing official returns. Prerequisite: Twelve hours in a combination of accounting and business law and/or economics. Three lectures a week for

one semester. Mr. Lay. (Given as a part of Business Administration 364 prior to 1943-1944; given as Business Administration 64a.i in 1943-1944 only.)]

[64b.i. *Federal Income Taxes: Corporations and Partnerships.*—Prerequisite: Twelve hours in a combination of accounting and business law and/or economics. Business Administration 64a is recommended but not required. Three lectures a week for one semester. Mr. Lay. (Given as a part of Business Administration 364 prior to 1943-1944; given as Business Administration 64b.i in 1943-1944 only.)]

364K. *Advanced Federal Taxes and Procedures.*—Advanced phases of income taxation, with particular attention to tax court and federal court cases and decisions; also study and preparation of returns involving gift taxes, estate tax, inheritance tax, and social security taxes. Procedure in connection with deficiency assessment, refunds, and other administrative practices, including practice before the Tax Court. Prerequisite: Business Administration 364. Three lectures a week for one semester. Mr. C. A. Smith. (To be offered for the first time in 1945-1946.)

365K. *Design of Accounting Systems and Operating Procedures.*—Business Administration 365K and 326L may not both be counted. Construction of accounting reports and recording systems; application of principles of system design to the policies, organization, and operating procedures (purchasing, manufacturing, selling, shipping, and cash control) of individual companies; cases and problems. Prerequisite: Six hours of advanced accounting and management. Three lectures a week for one semester. Mr. C. A. Smith. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

365L. *Machine Accounting.*—The characteristics and place of various types of machines in accounting and internal statistics. Cases and problems developing the application of machine accounting to specific commercial and industrial concerns and procedures within given industries. Prerequisite: Six hours of advanced business administration. Three lectures a week for one semester. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

367K. *Budgetary Control.*—Direction of the business organization in action through the budget; coördination of selling, purchasing, manufacturing, financing, and accounting activities; determination and enforcement of budget standards. Prerequisite: Six hours of advanced business administration, including Business Administration 329. Three lectures a week for one semester. Mr. Newlove, Mr. Hale. (Not given in 1943-1944 or 1944-1945.)

383K. *Evolution of Accounting Theory.*—The historical development of accounting theory from ancient to modern times; a study of the development of double-entry bookkeeping; the influences of commercial and economic development on accounting theory and practice. Prerequisite: Fourteen hours of advanced business administration, including Business Administration 326;

graduate standing or consent of instructor. Three lectures a week for one semester. Mr. White. (Not given in 1943-1944 or 1944-1945.)

383L. Advanced Governmental Accounting.—Case study of the application of the principles of fund accounting in the different levels of government and in governmental institutions and departments. Problems involved in internal audit control, budgetary accounting, tax and assessment records, use and application of machines, governmental reports and statements, and post auditing are examined and analyzed. Prerequisite: Fourteen hours of advanced business administration or government, including Business Administration 362K; graduate standing or consent of instructor. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

383M. Critical Analysis of Contemporary Accounting Theory.—Detailed study of accounting thought of today; the development of modern accounting; influences of governmental control on accounting theory; conflicts of accounting theory and general accounting practice. Prerequisite: Fourteen hours of advanced business administration, including Business Administration 326; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. White. (To be offered for the first time in 1946-1947.)

384K. C.P.A. Review, First Course.—Prepares for the theory and practice section of C.P.A. examinations; problems selected to develop ability to solve rapidly difficult 20 to 40 point C.P.A. problems under examination conditions; problems stress the accounting for assets and liabilities and the financial statements of individual corporations. Prerequisite: Twenty hours of advanced accounting; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Newlove. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

384L. C.P.A. Review, Second Course.—Continuation of the work of Business Administration 384K. Problems stress the accounting for amalgamations, reorganizations, holding companies, and fiduciaries. Prerequisite: Twenty hours of advanced accounting; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Newlove. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

388. Auditing Seminar and Field Work.—Prerequisite: Fourteen hours of advanced accounting and consent of the instructor. Three lectures a week for one semester. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

See also the related courses described under Business Law and Management.

ADVERTISING AND BUSINESS WRITING

Junior Courses

420. Business Correspondence and Report Writing.—Practice in the use of correct, forceful English, practical psychology, and good business judgment

in business letters and reports. Prerequisite: English 1, with an average of at least *C*, and six hours of sophomore English; and Business Administration 811, and 01 or its equivalent. Four lectures a week for one semester. Mr. Boyd.

340. Fundamentals of Advertising.—Same as Journalism 340. Relationship of advertising to other business functions; economic and social influence of advertising; study of campaigns, appropriations, and media; survey of activities of those engaged in advertising work. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Thompson.

340L. Survey of Current Advertising.—A study of current advertising in newspapers, magazines, and radio, to determine and evaluate the effectiveness of current styles and fads in advertising, to weigh them against past styles, and to examine the cycles and trends involved. Prerequisite: Business Administration 437. Three lectures a week for one semester. Mr. Purdy. (To be offered for the first time in 1945-1946.)

340R. Radio Advertising.—A consideration of the mechanics of radio advertising; actual practice in the preparation of radio programs, with emphasis upon continuity, balancing entertainment against sales effort, methods of checking the popularity of programs, and consideration of the coördination of radio advertising with the advertising in other media and with the general sales effort. Prerequisite: Business Administration 437. Three lectures a week for one semester. Mr. Purdy. (To be offered for the first time in 1945-1946.)

342. Writing of Advertising Copy.—Same as Journalism 342. Instruction and practice in writing various types of advertising copy; practice in drawing layouts; discussions of the problems of typographical reproduction. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Thompson.

Senior Courses

368H. Advertising Campaigns.—Materials and methods of prerequisite courses are used in analyzing and planning advertising campaigns. Includes budgets, trade areas, primary and supplementary media, sales ideas and appeals, schedules, layout, art, copy, typography and the coördination between advertising and sales efforts. Prerequisite: Business Administration 437 and either Business Administration 340 or Business Administration 340L. Three lectures a week for one semester. Mr. Purdy. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

368J. Business Report Writing.—Uses of reports in business and industry; sources of information and methods of investigation; organization of data; techniques of outlining; elements of reports; report-writing style; mechanics of form; graduated problems in the preparation of periodic progress, examination, and recommendation reports. Prerequisite: Business Administration 420

and 432 or their equivalent. Three lectures a week for one semester. Mr. Boyd. (Offered for the first time in 1942-1943 but not yet given.)

368N. Direct Mail Selling.—May be counted as journalism by students who also take Journalism 340, 342, and 343. Selling by mail as a sole medium and as an auxiliary to other selling methods; media used in selling by mail, with special attention to the structure of sales letters; uses of direct selling; mechanical production of direct advertising; planning and execution of the direct-mail campaign. Prerequisite: Business Administration 437, and 420 or 340. Three lectures a week for one semester. Mr. Boyd. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

BANKING AND FINANCE

Junior Courses

354. Short-Term Finance.—Types of credit-granting institutions; services supplied by commercial banks, such as depository, collection, lending, trust, foreign exchange, and investment; the short-term money markets; the machinery and discount policy of the Federal Reserve System. Prerequisite: Six hours of principles of economics and Business Administration 811a. Three lectures a week for one semester.

355. Credits and Collections.—Types of credit, credit terms, credit department organization and operation, sources of credit information, credit analysis and appraisal, collection devices, creditors' legal aids, handling embarrassed and insolvent accounts. Emphasis upon practical applications of credit and collection principles. Prerequisite: Business Administration 811 and junior standing. Three lectures a week for one semester. (Not given in 1943-1944.)

Economics 332. Corporation Finance.—May count as business administration. Development of corporate form of business; its advantages and disadvantages; legal position; promotion; sources of capital; internal financial management; receivership and reorganization. Prerequisite: Economics 313. Three lectures a week for one semester. Mr. Montgomery, Mr. Brandt, Mr. Sanderson.

Senior and Graduate Courses

375. Practical Bank Operation.—Organizing a new bank, departmental operations, operating policies, loan and investment administration, examinations, merger, and liquidation. Prerequisite: Business Administration 811, Business Administration 354 or Economics 22, and two additional hours of advanced business administration. Three lectures a week for one semester. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

376. Foreign Exchange.—Foreign exchange credit instruments, the foreign exchange market, modes of financing the international movement of goods, rates of exchange, gold movements, means of controlling exchange rates and

the economic effect of such policies. Prerequisite: Business Administration 811, Business Administration 354 or Economics 22, and two additional hours of advanced business administration. Three lectures a week for one semester. Mr. Dolley.

377. *Investment Banking and the Security Markets*.—Investment principles, the fixed capital market, flotation of new securities, the stock exchanges, security trading, and government regulation of the security market. Prerequisite: Business Administration 811, Economics 332, and two additional hours of advanced business administration. Three lectures a week for one semester. (Not given in 1943-1944.)

377L. *Investment Analysis*.—Analysis and valuation of investment securities issued by corporations and governmental agencies. Prerequisite: Business Administration 811, Economics 332, and two additional hours of business administration. Three lectures a week for one semester. Mr. Dolley, Mr. Taylor. (Not given in 1944-1945.)

390. *Central Banking*.—Prerequisite: Graduate standing; or twelve hours of finance and consent of instructor. Three lectures a week for one semester. Mr. Fitzgerald. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

392. *Current Financial Developments*.—Seminar in which related current problems in banking and finance, such as monetary policy, government fiscal policy, and commercial banking developments, are critically examined. Prerequisite: Graduate standing and consent of instructor. Three lectures a week for one semester. Mr. Irons. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

393. *Problems in Bank Management*.—Graduate seminar in which current problems relating to credit extension, secondary reserves, investment portfolios, and other operating policies are critically examined. Prerequisite: Graduate standing and consent of the instructor. Three lectures a week for one semester. Mr. Dolley. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

BUSINESS LAW AND REAL ESTATE

Junior Course

23. *Business Law, First Course*.—General principles of the law of contracts, bailments, sales, conditional sales, chattel mortgages, and negotiable instruments, presented in practical business problems; Texas statutes affecting these subjects. Not open to law students; not to be included among the courses presented for admission to the School of Law. Prerequisite: Six hours of principles of economics and junior standing. Three lectures a week for two semesters. Mr. McGinnis, Mr. F. L. Cox, Mr. Bandy.

Senior and Graduate Courses

361K. Agency and Partnership Law.—Business Administration 361K and 361 may not both be counted. General principles of the law of agency and partnerships. Not open to law students; not to be included among the courses presented for admission to the School of Law. Prerequisite: Six hours of advanced business administration, including Business Administration 23a. Three lectures a week for one semester. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

361L. Corporation Law.—Business Administration 361L and 361 may not both be counted. General principles of the law of corporations, with particular emphasis upon the rules for computation and distribution of corporate profits. Not open to law students; not to be included among the courses presented for admission to the School of Law. Prerequisite: Business Administration 23. Three lectures a week for one semester. Mr. F. L. Cox. (Not given in 1943-1944 or 1944-1945.)

361M. Labor Law.—Legislation, court decisions, and administrative rules and regulations determining the legal rights and obligations of labor and management. Not open to law students; not to be included among the courses presented for admission to the School of Law. Prerequisite: Business Administration 23a and an advanced course in the field of management. Three lectures a week for one semester. (To be offered for the first time in 1946-1947.)

361P. Real Estate Law.—Rights in land; classification of estates; acquisition and creation of property rights; titles; common conveyances. Not open to law students; not to be included among the courses presented for admission to the School of Law. Prerequisite: Credit or registration for Business Administration 23b, and an advanced course in business administration in the field of specialization. Three lectures a week for one semester. Mr. McGinnis. (To be offered for the first time in 1946-1947.)

361R. C.P.A. Law Review.—An analysis of the C.P.A. law examinations for recent years; a survey of the fields of law covered by these examinations; and a study of and practice in the technique of analyzing and answering law problems and cases. Prerequisite: Business Administration 23. Three lectures a week for one semester. Mr. F. L. Cox.

361T. Bailments and Carriers.—Various phases of law of particular interest in the general fields of transportation, including the law of bailments, liability, carriers (rail, motor, water, and air), bills of lading and warehouse receipts. Not open to law students; not to be included among the courses presented for admission to the School of Law. Prerequisite: Credit or registration for Business Administration 23b and credit or registration for any of the required courses in the program of study for the degree of Bachelor of Business Administration in the field of transportation. Three lectures a week for one semester. (To be offered for the first time in 1946-1947.)

378. *Principles of Real Estate Practice.*—Real estate office organization; leasing and property management; valuation, financing, taxation. Prerequisite: Six hours of advanced business administration, including Business Administration 437 and an advanced course in business administration in the field of specialization. Three lectures a week for one semester. Mr. McGinnis. (Not given in 1943-1944 or 1944-1945.)

385. *Administration of Estates and Inheritance Taxation.*—Problems of executors, administrators, and trustees. Federal estate and gift taxes and Texas inheritance taxes. Prerequisite: Business Administration 811, 23, and six additional hours of advanced business administration; graduate standing or consent of instructor. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

387. *Administration of Bankrupt and Insolvent Estates and Receiverships.*—Problems affecting trustees and receivers under the Federal bankruptcy and Texas insolvency laws. Prerequisite: Business Administration 811, 23, and six additional hours of advanced business administration; graduate standing or consent of instructor. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

BUSINESS STATISTICS AND INSURANCE

Junior Courses

432. *Business Statistics.*—Training in the quantitative methods of analysis in dealing with the problems of business management. Collection, classification, and description of data; use of graphic methods; introduction to the theory of sampling; the frequency distribution; averages; measures of variation and skewness; index numbers; analysis of time series; correlation. This course should be taken in the junior year. Prerequisite: Six hours of principles of economics; six hours of mathematics; junior standing. Three lecture and two recitation and laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Stockton, Mr. Broom, Miss Traweek.

333. *Tabulating Machine Practice.*—Preparation of accounting and statistical reports with tabulating machines; design of tabulating cards; supervision of a tabulating department; operation of International alphabetic tabulating machines. (Given with the co-operation of International Business Machines Corporation.) Prerequisite: Business Administration 01 or its equivalent, Business Administration 811, and credit or registration for Business Administration 432. Three lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Miss Traweek.

357. *Property Insurance and Fidelity and Surety Bonds.*—Organization, technique, and administration of insurers of one's own property and the guarantors of the fidelity and competence of employees and other servers; policies and bonds; development of principles. Prerequisite: Business Administration 811 or six hours of principles of economics. Three lectures a week for one semester. Mr. Fitzgerald.

358. *Life Insurance and Income Protection.*—Principles of life and other insurance of one's own person and income; business and personal uses of such insurance; classification and analysis of policies; reserves and policy values; organization and administration of life insurance companies. Prerequisite: Business Administration 811 or six hours of principles of economics. Three lectures a week for one semester. Mr. Fitzgerald.

Pure Mathematics 45. Probability.—May count as business administration. Distributions of Laplace, Poisson, and Pearson. Significance tests. Kinetic theory of gases. Statistical mechanics. Prerequisite: Eighteen hours of mathematics, including Pure Mathematics 13. If before taking Pure Mathematics 45 a student has credit for three or six hours of advanced mathematics, this course will count as a senior course to the extent of three or six hours. Three lectures a week for two semesters. (Not given in 1941-1942 or 1943-1944.)

Pure Mathematics 47. Actuarial Mathematics.—May count as business administration. Graduation of mortality tables, premiums for life insurance and annuities upon one or more lives, varying benefits, valuation. Prerequisite: Eighteen hours of mathematics, including Pure Mathematics 13. Counts in the same manner as Pure Mathematics 45. Three lectures a week for two semesters. (Not given in 1942-1943 or 1943-1944.)

Senior Courses

366. *Advanced Business Statistics.*—Probability and the theory of sampling; tests of significance and reliability; statistical induction; the normal curve; Chi-square test; analysis of variance; non-linear, multiple, and partial correlation; testing hypotheses, nature of statistical results and their application in business research. Prerequisite: Six advanced hours, including Business Administration 432 or Economics 329 or the equivalent; adequate mathematical preparation. Three lectures a week for one semester. Mr. Stockton. (Not given in 1944-1945.)

366K. *Statistics in Business Forecasting.*—History and theories of the business cycle; application of statistical methods to the measurement of cyclical fluctuations; index numbers; methods of business forecasting and their limitations; critical survey of the more prominent forecasting services in current use. Prerequisite: Six advanced hours, including Business Administration 432 or Economics 329. Three lectures a week for one semester. Mr. Stockton.

366N. *Index Numbers in Business.*—Uses, construction, and history of index numbers in business; measurement of the general price level, groups of prices, general business activity, volume of production and trade; description of the most important published index numbers. Prerequisite: Six advanced hours, including Business Administration 432 or Economics 329 or the equivalent. Three lectures a week for one semester. Mr. Stockton. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

366V. Internal Statistics for Managerial Control.—Application of statistical methods to internal data pertaining to problems of economic control of the quality of manufactured products, production control, and sales analysis. Prerequisite: Business Administration 811 and 432. Three lectures a week for one semester. Mr. Stockton. (Not given in 1944-1945.)

275L. Liability Insurance.—Principles and means of protecting oneself against the liabilities one may incur because of injuries to employees and other persons and damages to the property of others. Prerequisite: Six hours of advanced business administration or economics. Two lectures a week for one semester. Mr. Fitzgerald. (Not given in 1944-1945.)

COTTON MARKETING

Junior Courses

346. Cotton Marketing.—Evolution of markets and market practices; the present and potential sources of demand and supply; cotton markets and marketing in the United States; relationships between markets; services performed in marketing cotton; coöperative cotton marketing; and analysis of problems. Prerequisite: Six hours of principles of economics. Three lectures a week for one semester. Mr. A. B. Cox.

347. Cotton Trade Procedure.—Functions of the various departments of a cotton firm, such as accounting, finance, transportation, purchases, sales, and classing. Prerequisite: Business Administration 811 and 346. Laboratory fee, \$2. The lecture and classroom portion of this course will be given the first half of the semester. The classing and other laboratory work will be given the second half, with the assistance of United States Government licensed classers. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

Senior and Graduate Courses

271. Price Making in Produce Markets.—Analysis of market facilities and market operations; analysis of price and statistical measurement of price-making forces. Students are required to analyze and evaluate price-making factors. Deals primarily with cotton and the cotton market. Prerequisite: Business Administration 432 and 346. Two lectures a week for one semester. Mr. A. B. Cox. (Not given in 1943-1944.)

282. Cotton Marketing in Europe.—Underlying principles of cotton exporting; a description of facilities for cotton exporting; analysis of European markets and marketing methods; problems. Prerequisite: Twelve hours of advanced business administration, including Business Administration 432, 346, and either 354 or 376; graduate standing or consent of instructor. Two lectures a week for one semester. Mr. A. B. Cox. (Not given in 1943-1944 or 1944-1945.)

INTERNATIONAL TRADE**Junior Courses**

352K. Markets for Latin-American Products and Sources of Latin-American Imports.—Prerequisite: Six hours of principles of economics. Three lectures a week for one semester. Mr. Ynsfran. (Given for the first time in 1941-1942; not given in 1942-1943.)

[*352L. Latin-American Tariffs and Tariff Policies.*—Prerequisite: Six hours of principles of economics. Three lectures a week for one semester. (Given in 1941-1942 only.)]

352R. International Commercial Relations and Policies of Argentina, Brazil, and Chile.—Prerequisite: Six hours of principles of economics. Three lectures a week for one semester. Mr. Ynsfran. (Given for the first time in 1943-1944.)

Senior and Graduate Courses

373. Exporting and Importing.—Methods of developing and conducting foreign trade. Prerequisite: Six hours of advanced business administration. Students are advised, but not required, to elect Business Administration 374T (or 350) before taking Business Administration 373. Three lectures a week for one semester. Mr. French. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

[*73Ka.i. International Commercial Relations: Methods of Foreign Trade Control (including those of Latin America).*—Prerequisite: Six hours of advanced business administration or economics. Three lectures a week for one semester. (Given in 1941-1942 only.)]

73Kb.i. International Commercial Relations and Policies.—Prerequisite: Six hours of advanced business administration or economics. Three lectures a week for one semester. Mr. French. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

374K. Industries and Trade of the Far East.—Present industrialization of the Orient (chiefly China and Japan) with special reference to its competitive effect on the industries and trade of the world, of the United States, and of Texas. Prerequisite: Six hours of advanced business administration. Three lectures a week for one semester. (Not given in 1941-1942 or 1942-1943.)

374L. Foreign Trade of the United States.—Intensive study of certain fundamentals of international trade theory as applied to the United States; general survey of import and export trade of this country, preceded by an examination of those characteristic features in the economic life of the country which are reflected in trade; current public policy as related to foreign trade. Prerequisite: Business Administration 374T (or 350) and three additional hours of advanced business administration or economics. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

374T. Theory of International Trade.—Business Administration 374T and 350 may not both be counted. Critical study of current opinions on (a) the general theory of commerce between nations; (b) governmental policy in this connection (depreciated currency, exchange control, international investments, tariffs, and other trade regulations). Prerequisite: Six hours of advanced business administration or economics. Three lectures a week for one semester. Mr. French.

374V. Competition and Business.—An inductive study of competition in the steel and petroleum industries; what competition is; how it operates; industrial combinations, concentration, and agreement (their purposes and effects); the policies of corporations as to combination, limitation of output, etc., in these industries; the economic doctrines of business men (contrasted with the theories of economists) as underlying these policies. Prerequisite: Six hours of advanced business administration or economics. Three lectures a week for one semester. (Given for the first time in 1941-1942.)

389. Inter-American Trade.—Prerequisite: Six hours of senior business administration or economics. Three lectures a week for one semester. (Given for the first time in 1941-1942; not given in 1942-1943, 1943-1944, or 1944-1945.)

[*389K. Latin-American Trade with Non-American Countries.*—Prerequisite: Six hours of senior business administration or economics. Three lectures a week for one semester. (Given in 1941-1942 only.)]

See also the following courses described under Resources:

352. Resources of Latin America.

373J. World Resources and International Trade.

MANAGEMENT AND INDUSTRIAL RELATIONS

Junior Courses

[324. Analysis of Accounting Statements.—Analysis and interpretation of corporation statements and departmental reports from the points of view of (1) various credit interests (such as bankers, credit men, and investors); (2) public and private accountants; and (3) corporation directors and executives interested in measurement of managerial or operating efficiency. Prerequisite: Business Administration 811. Three lectures a week for one semester. Mr. Lay. (Not given after 1942-1943.)]

325. Personnel Management.—Survey of personnel policy, procedures, techniques, and tools; managerial, employee, and public attitudes toward personnel management; job analysis, evaluation, and classification; sources of labor supply, employment, and testing; training in industry; hours of work, wage plans, and wage policies; service rating; joint relations between labor unions and employees; employee safety and health; industrial unrest and morale; public personnel administration; personnel research; personnel work in Texas.

Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Davis. (Formerly a senior course, Business Administration 365P; given as Business Administration 325 for the first time in 1944-1945.)

[328. *Managerial Uses of Accounting*.—Accounting as an aid to all departments of a business, emphasizing sales, purchasing, manufacturing, financing, personnel, and general administration, the problems of each, standards and records needed in their solution; accounting reports needed for internal management; problems and cases. Prerequisite: Business Administration 811. Three lectures a week for one semester. Mr. Lay. (Not given after 1943-1944.)]

334. *Current Problems in Industrial Management*.—Survey of the industrial problems of today, coupled with practice in problem solution. The application of scientific method to such problems as plant location, selection and maintenance of machinery, service equipment, and buildings; plant layout; materials handling; stores control; and safety programs. Case material on the organization of men, materials, and equipment in small, medium-sized, and large plants. Prerequisite: Junior standing. Three lectures a week for one semester. (Not given in 1944-1945.)

334E. *Employee Supervision*.—Relation of the supervisor to his subordinates and labor unions; the relation of the supervisor to the personnel department and to higher management; leadership, foremanship, and supervision in business; tools of supervision; planning group work; inducting new employees; on-the-job training, upgrading, absenteeism, grievances, morale, and waste control; maintenance of discipline; labor law affecting the supervisor. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Davis.

Senior and Graduate Courses

365J. *Job Analysis and Wage Determination*.—The nature of job analysis and its relation to wage determination; techniques and procedures of job analysis and job evaluation; the job description and job specification; wage surveys; wage variations within the organization and in the locality; job ranking method; predetermined grades method; point system; factor comparison method; classification and wage administration in government service. Prerequisite: Senior standing. Three lectures a week for one semester. (To be offered for the first time in 1945-1946.)

365M. *Managerial Organization*.—Organizing the work and personnel in corporations; line, staff, functional, territorial, and commodity types; "principles" for control of executives and employees; committee and conference procedure; charts and manuals; departmental and company reorganization in concerns of various sizes and industries. Prerequisite: Six hours of advanced business administration and/or economics. Three lectures a week for one semester. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

365N. Collective Bargaining.—Meaning of collective bargaining; historical background; case studies of collective bargaining in industries such as railroads, steel, and coal; the National Labor Relations Act; unfair labor practices; the collective bargaining procedure; union, management, and labor protective clauses; seniority and grievance clauses; case studies of current labor contracts and bargaining negotiations; collective bargaining in Texas. Prerequisite: Business Administration 325 or consent of the instructor. Three lectures a week for one semester. Mr. Davis. (To be offered for the first time in 1945-1946.)

[*365P. Personnel Management.*—Policies and managerial techniques for employment; wage and salary payment; maintaining the force (safety, old age, health); training and discipline; joint relations through labor unions and company representation plans. Executive attitudes and devices for personal leadership of associates and subordinates. Treatment accorded college men in business. Prerequisite: Six hours of advanced business administration and/or economics. Three lectures a week for one semester. Mr. Lay. (To be given as a junior course, Business Administration 325, beginning in 1944-1945.)]

365R. Advanced Personnel Management.—Detailed analysis of major personnel problems; design of service rating programs; composition of the employee handbook; measurement and promotion of morale; combating the absentee problem; employment stabilization and work scheduling; design of continuous production schedules; time and motion study; the seniority problem; design of personnel research programs; stock ownership and retirement plans. Prerequisite: Six hours of advanced management or industrial relations, including Business Administration 325. Three lectures a week for one semester. Mr. Davis. (Given for the first time in 1943-1944.)

367L. Production Control.—A case study of methods of obtaining high quantity and quality at lower costs. Product development, routing, scheduling, and inspection are covered, as well as the control of raw materials, quality, waste, and costs. Use of budgets, inspection reports, flow diagrams, perpetual inventory cards, and production records as tools of control. Prerequisite: Business Administration 334. Three lectures a week for one semester. (To be offered for the first time in 1947-1948.)

367P. Management and Business Policy.—Company and departmental policy as a tool for coördinating selling, manufacturing, financing, and other operating work; "scientific" methods of formulating policy; current major management problems and policies; the government, employees, trade associations, customers, investors, and the business-serving professions. Prerequisite: Six hours of advanced business administration or social sciences. Three lectures a week for one semester. (Not given in 1942-1943 or 1944-1945.)

367V. Executive Management and Control.—Management above the supervisory level and its spheres of activity. Qualifications, selection, training, motivation, and measurement of efficiency of top executives. Multiple management.

Managerial tools used in planning, organizing, coördinating, and controlling industrial enterprises. Prerequisite: Senior standing. Three lectures a week for one semester. (To be offered for the first time in 1947-1948.)

[395. *Seminar in Administrative Management*.—Critical appraisal of the guidance function, including the origin and development of management, and its current problems, associations, guiding personnel, literature, theory, and philosophy. Prerequisite: Graduate standing in business administration and consent of the instructor. Three hours a week for one or two semesters. Mr. Lay. (Given for the first time in 1942-1943; not given after 1943-1944.)]

MARKETING

Junior Courses

335. *Consumer Purchasing*.—Personal and family budgets; standards of living; life planning as affected by income; retail stores as purchasing agents for the consumer; advertising and propaganda as they affect purchasing; trade-marks, brands, and guarantees; the place of standards and objective tests in consumer purchasing. Prerequisite: Economics 312 and junior standing. Three lectures a week for one semester. Mr. E. G. Smith.

437. *Principles of Marketing*.—May be counted as journalism by those who also take Journalism 340, 342, and 343. The place of marketing in our economic structure; analysis of the present marketing structures by functions, institutions, and commodities. Prerequisite: Six hours of principles of economics and junior standing. Four lectures a week for one semester. Mr. E. G. Smith.

Senior and Graduate Courses

368. *Sales Management*.—Policies, operation, and control of the marketing activities of manufacturing organizations; policies as they affect the products, the market, and the house; operation and coördination of the credit, delivery, and selling functions; control of the merchandise, the salesmen, the sales departments. Prerequisite: Business Administration 811 and 437. Three lectures a week for one semester. Mr. Jones.

368D. *History of Distribution*.—Traces the evolution of markets and marketing from early times to the present, with particular reference to Great Britain and the United States since 1800. Analysis of the development of the basic distributing patterns in the United States with reference to people, resources, and transportation. Prerequisite: Six hours of advanced business administration, including Business Administration 437. Three lectures a week for one semester. Mr. E. G. Smith. (Offered for the first time in 1943-1944 but not yet given.)

368K. *Marketing Research and Analysis*.—Preparation, conduct, and results of consumer investigations; interpretation of the results; their application to different types of business situations. Preparation and execution of an original field investigation. Prerequisite: Business Administration 811, 432, and 437. Three lectures a week for one semester. (Not given in 1944-1945.)

368L. Wholesale Management.—Position of the wholesaler in the distribution of different classes of merchandise; types and functions performed; location and operation of the different departments of the business with emphasis upon buying, storage, credit, delivery, and selling; future development of distribution as it affects wholesaling. Prerequisite: Business Administration 811 and 437. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

368M. Industrial Purchasing.—Prerequisite: Senior standing and Business Administration 811 and 437. Three lectures a week for one semester. Mr. E. G. Smith. (Not given in 1943-1944.)

368T. Marketing of Texas Raw Materials (Other than Cotton).—General problems pertaining to the marketing of major Texas products—cotton excluded—such as livestock, grain, oil, dairy products, fruits and vegetables, lumber, wool, etc., consideration of such topics as channels of distribution, logical markets, industrial marketing policies, agricultural coöperative marketing, marketing costs, state and federal activity. Prerequisite: Business Administration 811 and 437. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

369. Principles of Retailing.—Survey course in retailing, dealing briefly with all phases of retailing, both external and internal. Lecture and discussion. Prerequisite: Business Administration 811 and 437. Three lectures a week for one semester. Mr. E. G. Smith. (Not given in 1944-1945.)

369P. Retail Personnel.—Prerequisite: Six hours of advanced business administration. Three lectures a week for one semester. (To be offered for the first time in 1946-1947.)

370. Retail Merchandising and Sales Promotion.—Detailed consideration of retail-store operating functions pertaining to merchandising, sales promotion, and non-selling services. Prerequisite: Business Administration 811 and 437 and one other course in marketing. Three lectures a week for one semester. Mr. E. G. Smith. (Not given in 1943-1944.)

370D. Industrial Marketing.—Special problems involved in the marketing of industrial products, including all classes of industrial goods, installations, equipment, supplies, semimanufactured goods, and raw materials, both at the factory and the wholesale level. An exploration of markets for various goods and of proper distributing and promotional methods, including a survey of industrial advertising. Prerequisite: Six hours of advanced business administration, including Business Administration 437. Three lectures a week for one semester. Mr. Nielander. (To be offered for the first time in 1946-1947.)

370K. Agricultural Coöperatives.—Principles of coöperation as applied to the selling of agricultural products and the purchasing of farm supplies, including allied services such as credit, insurance, and utilities. A critical appraisal of the existing coöperative organizations and determination of their place in the present economy. Prerequisite: Six hours of advanced business

administration, including Business Administration 437. Three lectures a week for one semester. Mr. Nielander. (To be offered for the first time in 1946-1947.)

370P. Public Relations.—Principles and techniques involved in the relationship of a business organization to its public. Relationships include national, state, and local government, employees, customers, suppliers, social and religious institutions. Nothing on publicity is included in the course. Prerequisite: Six hours of advanced business administration, including Business Administration 437. Three lectures a week for one semester. Mr. Nielander. (To be offered for the first time in 1946-1947.)

372K. Advanced Marketing.—Newer types of distributors, such as chain systems, coöperative chains, other middlemen coöperation, wagon jobbers, cash and carry wholesalers and retailers; their relation to other distributors; consumer coöperation; causes of and tendency toward more direct distribution and its effect upon our economic, political, and social order. Prerequisite: Business Administration 811 and 437. Three lectures a week for one semester. Mr. E. G. Smith.

97a.i., 97b.i. Retail Store Problems and Policies.—Case studies, observations, and reports over all phases of retailing. Prerequisite: Graduate standing and consent of instructor. Three lectures a week for one semester. Mr. E. G. Smith. (97a was not given in 1943-1944; 97b was not given in 1942-1943; not given in 1944-1945.)

PROBLEM AND RESEARCH COURSES

Senior and Graduate Courses

378P. Planning American Postwar Policy.—Our relations with Great Britain, Europe, Russia, Pan America, the Orient. The scope of private industry and of the government; the Beveridge Plan. Recommendations of the National Resources Planning Board. Prerequisite: Six hours of advanced business administration, economics, or government. Three lectures a week for one semester. Mr. McGinnis. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

279, 379, 479, 79. Problems in Business Administration.—Opportunity is here offered the student to pursue special studies for which a separate course is not organized, as in accounting, business law, marketing, cotton marketing, foreign trade, banking and investments, credit administration, statistics and business forecasting, insurance, real estate, personnel management, production management, public utility management, traffic management, and secretarial administration. Prerequisite: Eighteen hours of business administration and economics, six of which must be advanced; consent of the instructor in the selected field. Credit for two, three, four, or six semester hours according to the amount of work done. Staff of the College.

391, 91. Special Studies in Business Administration.—An opportunity for graduate students to pursue independent reading and investigation in the field of their concentration. Reports are made to a conference of graduate

students and instructors which meets in alternate weeks. Prerequisite: Graduate standing, completion of the underlying courses in the chosen field, and consent of the instructor who is to supervise the work. Credit given according to amount of work done. Mr. A. B. Cox, Mr. Dolley, Mr. Fitzgerald, Mr. French, Mr. McGinnis, Mr. Newlove, Mr. Nielander, Mr. C. A. Smith, Mr. E. G. Smith, Mr. Stockton, Mr. White, Mr. Zimmermann.

98. *Business Research*.—Candidates for the degree of Master in Business Administration should register for this course. Credit is given on the basis of the work done in preparation of the thesis. Prerequisite: Graduate standing, completion of the underlying courses in the chosen field; consent of the instructor in the selected field. Mr. A. B. Cox, Mr. Dolley, Mr. Fitzgerald, Mr. French, Mr. Frederick, Mr. Irons, Mr. Lay, Mr. McGinnis, Mr. Newlove, Mr. Nielander, Mr. C. A. Smith, Mr. E. G. Smith, Mr. Stockton, Mr. White, Mr. Winston, Mr. Zimmermann.

99. *Advanced Business Research*.—A conference course open to candidates for the Doctor of Philosophy degree who are engaged in writing dissertations. Credit will be given when the dissertation has been accepted. Prerequisite: Admission to candidacy and satisfaction of the language requirement for the Doctor of Philosophy degree. Mr. A. B. Cox, Mr. Dolley, Mr. Fitzgerald, Mr. Frederick, Mr. Lay, Mr. McGinnis, Mr. Newlove, Mr. C. A. Smith, Mr. Winston, Mr. Zimmermann.

RESOURCES AND INDUSTRIES

Junior Courses

336. *Economic Geography*.—A world perspective of the fundamental factors of the physical bases of production of commodities of commerce. Consideration of world climatic regions, physiographic features, natural vegetation, soil resources, and mineral deposits. Emphasis on the regional interrelationships of these various conditions and resources to the natural environment of which they are a part. Special attention to these factors as fundamental to the commercial and industrial development of the United States. Prerequisite: Six hours of principles of economics and junior standing. Three lectures a week for one semester. Mr. A. B. Cox. (Not given in 1942-1943.)

36Na.i, 36Nb.i. *Foundations of National Power*.—May count as economics. The aim of the course is to promote interest in and understanding of the world position of the United States, the problem of American security, and the degree to which security for the United States depends upon establishing a more stable international order. There is no desire to promulgate particular doctrines or theories; rather, the emphasis is on the facts and situations with which our statesmen have to deal. Prerequisite: Six hours of principles of economics and junior standing. Three lectures a week each for one semester. Mr. Zimmermann. (To be offered for the first time in 1945-1946.)

[336R. *Introduction to the Study of Resources*.—May count as economics. The functional concept of resources. The dynamics of interacting forces of

nature and culture. The basic dualism of nature and the hierachial order of modern culture. Resource clusters and patterns. Problems of adequacy, equity, and permanence of world resources. Prerequisite: Six hours of principles of economics. Three lectures a week for one semester. Mr. Zimmermann. (Given for the first time in 1943-1944; beginning with 1946-1947, to be given as a senior course, Business Administration 373E.)]

352. *Resources of Latin America*.—May count as economics. Physical and cultural background of the social and economic development of Latin America. Attention to current problems of industrialization and trade. Prerequisite: Six hours of principles of economics. Three lectures a week for one semester. Mr. Zimmermann. (Not given in 1944-1945.)

Senior and Graduate Courses

371R. *Texas' Resources and Industries*.—Description of Texas' major resources and industries, analyses of their economic significance, and the historic background of Texas' industrial development. Prerequisite: Senior standing. Three lectures a week for one semester. Mr. A. B. Cox.

373E. *Introduction to the Study of Resources*.—May count as economics. The functional concept of resources. The dynamics of interacting forces of nature and culture. The basic dualism of nature and the hierachial order of modern culture. Resource clusters and patterns. Problems of adequacy, equity, and permanence of world resources. Prerequisite: Six hours of advanced business administration or economics; senior standing or consent of the instructor. Three lectures a week for one semester. Mr. Zimmermann. (Formerly a junior course, Business Administration 336R; to be given as Business Administration 373E for the first time in 1946-1947.)

73Ga.i. *Resources of Agriculture*.—May count as economics. The nature of agriculture and its place in an industrializing world. Special attention to food and textile resources. The economic implications of plant characteristics and of the length of the growing cycle. The structure of agricultural industries. Prerequisite: Six hours of advanced business administration or economics. Students are advised but not required to elect Business Administration 373E before taking this course. Three lectures a week for one semester. Mr. Zimmermann. (Given for the first time in 1942-1943.)

73Gb.i. *Resources of Industry*.—May count as economics. Analysis of the nature and structure of modern machine industry and of the foundations on which it rests. Major groups of industry are compared and major centers of industrialization are examined. Problems of location are analyzed. Special attention to the impact of modern science and technology on both structure and functions of modern machine industry. Prerequisite: Six hours of advanced business administration or economics. Students are advised but not required to elect Business Administration 373E before taking this course. Three lectures a week for one semester. Mr. Zimmermann. (Given for the first time in 1942-1943.)

[*373H. World Resources and the War.*—Analysis of the resource position of the belligerent groups. Prerequisite: Six hours of advanced business administration or economics. Three lectures a week for one semester. Mr. Zimmermann. (Given for the first time in 1942–1943; not given after 1943–1944.)]

373J. World Resources and International Trade.—May count as economics. The emphasis is on broad secular forces rather than on transitory market phenomena. The impact of geographical, demographic, cultural, and political developments on current world trade is examined. Attention to theoretical implications of these developments. Prerequisite: Six hours of advanced business administration or economics. Three lectures a week for one semester. Mr. Zimmermann. (Given for the first time in 1942–1943.)

94. Resources Seminar.—Studies in timely problems including the industrialization of Texas. Prerequisite: Graduate standing. Three lectures a week for two semesters. Mr. Zimmermann. (Given for the first time in 1942–1943.)

SECRETARIAL AND TEACHING COURSES

Junior Course

222. Office Management.—Location, equipment, organization, and management of an office. Prerequisite: Six hours of principles of economics and Business Administration 811. Two lectures a week for one semester. Miss Stullken.

Senior Courses

Education 78a.i. Teachers' Course in Vocational Commercial Subjects.—May count as business administration. Subject matter and methods for teaching secretarial courses, bookkeeping, arithmetic, and allied subjects in high school. Prerequisite: Twelve hours of advanced business administration; Education 378M; senior standing. Three lectures a week for one semester. Miss Stullken. (Given for the first time in 1941–1942; not given in 1942–1943 or 1944–1945.)

Education 78b.i. Teachers' Course in Social Commercial Subjects.—May count as business administration. Subject matter and methods for teaching the social and salesmanship courses taught in high schools. Prerequisite: Twelve hours of advanced business administration; Education 378M; senior standing. Three lectures a week for one semester. Miss Stullken. (Given for the first time in 1942–1943; not given in 1943–1944.)

Education 378M. Recent Trends in the Teaching of Commercial Subjects.—May count as business administration. Trends in business curricula, integration between business and business subjects, guidance, vocational aspects. Prerequisite: Six hours of advanced business administration; either Education 314 (or Psychology 316) and 317, or 311 and 312; senior standing. Three lectures a week for one semester. Miss Stullken. (Given for the first time in 1941–1942.)

TRANSPORTATION AND INDUSTRY**Junior Course**

344. Storage and Warehousing.—Uses of the services and facilities of public warehousing organizations by producers of agricultural products and manufactured goods to bring about efficient marketing; development of the warehousing industry; financial, transportational, and other aspects of the industry. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Hudson.

Senior Courses

372H. Air Transportation.—The air transportation system of the United States; airways, airports, airlines. Federal regulation of air transportation. Problems and services of commercial air transportation: economics, equipment, operations, financing, selling, passenger, mail, and cargo services. Prerequisite: Six hours of advanced business administration or economics. Three lectures a week for one semester. Mr. Hudson. (Given for the first time in 1941-1942.)

372J. Airline Administration.—Practices, systems, and methods of airline management; actual work in handling details and forms required in planning and directing maintenance, operations, accounting, and traffic transactions; study of airline operation and other manuals of various companies. Prerequisite: Business Administration 372H. Three lectures a week for one semester. Mr. Hudson. (Given for the first time in 1943-1944.)

372L. Motor Transportation.—Motor transportation agencies and systems; services; relations of motor carriers with one another and with the public; selling motor carrier services; management problems and policies; government aid and regulation. Prerequisite: Six hours of advanced business administration or economics. Three lectures a week for one semester. Mr. Hudson. (Not given in 1942-1943.)

372M. Advanced Traffic Management.—Practices, systems, and methods of freight traffic management; actual practice in handling details and forms required in planning and directing shipping transactions; tariff interpretation and rate construction; claims; transportation law and rules of practice before regulatory bodies. Prerequisite: Business Administration 372T. Three lectures a week for one semester. Mr. Hudson.

372R. Water Transportation.—Water transportation system, organization agencies, and services; shipping documents; relations of water carriers with one another and the public; freight classification and charges; government aid and regulation. Prerequisite: Six hours of advanced business administration or economics. Three lectures a week for one semester. Mr. Hudson. (Given for the first time in 1941-1942; not given in 1944-1945.)

372T. Traffic Management.—Services of transportation agencies, particularly the railroads, and their efficient use. Principles of traffic department organization and management; functions of traffic management; railroad rates; ship-

ping papers; powers of shipper and carrier. Prerequisite: Six hours of advanced business administration or economics. Three lectures a week for one semester. Mr. Hudson.

372V. Problems in Airport Administration.—The airport as a service organization; types; managerial duties and responsibilities; organization of departments; accounting, purchasing, stores, structure and plant; legal obligations, rights, and restrictions; advertising and business promotion; Civil Aeronautics Administration regulations. Prerequisite: Business Administration 372H and senior standing. Three lectures a week for one semester. Mr. Hudson. (Given for the first time in 1944-1945.)

COLLEGE OF EDUCATION*

Facilities for Graduate Study

The College of Education possesses equipment and staff sufficient to provide the necessary major or minor work required for the degrees of Master of Arts, Master of Education, Doctor of Philosophy, and Doctor of Education. At present this work is provided in the following fields: Curriculum and Instruction, Educational Administration, Educational Psychology, History of Education, Philosophy of Education, and Secondary Education. Courses in Physical Education may, with the consent of each Department, be counted as courses in the foregoing departments.

The University possesses exceptional facilities for the study of education. The Austin public school system includes twenty-three ward schools and well-equipped junior and senior high schools. Through the courtesy of the school authorities, opportunity is provided not only for student-teaching under supervision, but also for various types of educational investigation. There are also located in Austin the State schools for the blind, the deaf, and the feeble-minded. These, together with a large State hospital for nervous diseases, offer rare facilities for the study of educational psychology, for practice in experimental and test work, and for investigation of the problems connected with the education of the defective classes.

The Division of Extension, through its school inquiries and its extension courses, keeps the College of Education in intimate touch with numerous other leading city and town school systems, through which its students may obtain experience in giving tests and in other forms of practical work, and may secure data for practice in manipulation or for purposes of investigation. Through this Division numerous local school surveys have been conducted, largely by members of the faculty of the College of Education; and the Division is in a position to continue this service in the future.

The University Library contains practically all of the modern works of value on education, including complete sets of all the leading educational journals in English and of the most important foreign journals. A moderate annual fund is available for the purchase of special library material needed in investigations from time to time by advanced students. The State Library and the

*The School of Education has been changed to the College of Education, effective July, 1945.

State Department of Education are also located in Austin and are rich in material for the study of the legal and historical aspects of Southwestern education.

Sutton Hall, in which education is housed, is well equipped. In addition to the usual classrooms and offices, it contains laboratory, library, and research facilities.

The year 1933-1934 was marked by the opening of the University High School, housing about one thousand pupils in the junior high-school grades and providing for the first time needed experimental facilities to students in the College of Education. This building provides facilities especially designed for clinical and experimental work in child development and teaching.

Facilities for the work of the Department of Physical Education are excellent. Gregory Gymnasium, for men, and the Women's Gymnasium are among the finest and most complete buildings of their kind in the South. They provide space and equipment for work in physical education.

Degree Requirements

General prerequisites and requirements.—For the Master of Arts degree see pages 31 to 34. For the Master of Education degree see pages 36 and 37. For the Doctor of Philosophy degree see pages 25 to 28. For the Doctor of Education degree see pages 28 to 31.

Specific prerequisites and requirements.—A student majoring in education for the master's degree may count not more than nine semester hours of junior work on the degree, of which not more than three semester hours may be in the major.

Students seeking the degree of Doctor of Philosophy with a major in education or the degree of Doctor of Education are governed, beyond the general requirements of the Graduate School, by their respective supervisory committees, under the following regulations:

The student is required to pass a preliminary examination before admission to candidacy for the degree, which must be held at least one year prior to the conferring of the degree and preferably at the end of the first year of graduate work. This examination may, at the option of the committee, be oral or written and covers the principal fields of education as offered in The University of Texas.

The scope and order of work is subject in each case to approval of the supervisory committee, with a view to insuring proper breadth and concentration.

Index

To facilitate the use of this section, in which the courses in education are listed under departments, a list of the course numbers in numerical order by rank is given below, with the name of the department in which the description of the course will be found. Physical education and nursing education courses will be found under the Department of Physical and Health Education.

The names of the departments are abbreviated as follows: *Cur. & I.*, Curriculum and Instruction; *Ed. Adm.*, Educational Administration; *Ed. Psy.*, Educational Psychology; *H. & P.*, History and Philosophy of Education.

320D, Ed. Psy.	260, 360, Ed. Adm.	375, Cur. & I.
20Ka, Ed. Psy.	460H, Ed. Adm.	375P, Ed. Psy.
20Kb, Cur. & I.	60K, H. & P.	376, Ed. Psy.
321T, Cur. & I.	360R, Ed. Adm.	376P, Ed. Psy.
322T, Cur. & I.	61, Cur. & I.	376T, Cur. & I.
23, Cur. & I.	361H, Ed. Adm.	377T, Cur. & I.
23T, Ed. Psy.	362, Ed. Adm.	78, Cur. & I.
25, H. & P.	462, Ed. Adm.	378M, Cur. & I.
326, Cur. & I.	362K, H. & P.	378T, Cur. & I.
326D, Ed. Psy.	362P, Ed. Psy.	279, 379, Ed. Adm.
326T, Cur. & I.	363, Ed. Adm.	80, H. & P.
27, Cur. & I.	363K, H. & P.	380P, Ed. Psy.
329, Cur. & I.	364, Ed. Psy.	280T, Cur. & I.
330, Ed. Psy.	364K, Ed. Adm.	381, Cur. & I.
330T, Cur. & I.	364P, Ed. Psy.	381E, Cur. & I.
331, Cur. & I.	264T, Cur. & I.	382, Ed. Psy.
332, Cur. & I.	265, 365, Ed. Adm.	82, Ed. Psy.
32, Cur. & I.	365K, Ed. Adm.	82M, Cur. & I.
32K, Cur. & I.	65P, Ed. Psy.	382T, Cur. & I.
332T, Cur. & I.	265T, Cur. & I.	383, Ed. Adm.
334, Cur. & I.	366P, Ed. Psy.	83, Ed. Adm.
335T, Cur. & I.	266T, Cur. & I.	383E, Ed. Adm.
337, Ed. Adm.	367, H. & P.	383J, Ed. Adm.
338, Cur. & I.	367K, H. & P.	83M, Cur. & I.
340, Ed. Psy.	268T, Cur. & I.	383W, Ed. Adm.
342K, Ed. Psy.	369, Ed. Adm.	384, H. & P.
343, Ed. Psy.	369K, H. & P.	384K, H. & P.
44T, Cur. & I.	369T, Cur. & I.	386, Cur. & I.
348, Cur. & I.	370, Ed. Psy.	387, Ed. Adm.
348K, Ed. Adm.	370K, Ed. Adm.	388, Ed. Psy.
349J, Cur. & I.	370L, Ed. Adm.	389, Ed. Psy.
454M, Cur. & I.	371, Ed. Psy.	89P, Ed. Psy.
355, Ed. Psy.	371K, Ed. Psy.	390, Cur. & I.
357T, Cur. & I.	372, Ed. Psy.	393, Cur. & I.
358M, Cur. & I.	372K, Ed. Psy.	394, H. & P.
359, Ed. Psy.	373P, Ed. Psy.	395, H. & P.
359M, Cur. & I.	374, Ed. Psy.	396, H. & P.
359Q, Ed. Psy.	374P, Ed. Psy.	397, Cur. & I.

DEPARTMENT OF CURRICULUM AND INSTRUCTION

Joseph Lindsey Henderson, Ph.D., *Professor of Secondary Education*.²¹³

James Greenleaf Umstattd, Ph.D., *Professor of Secondary Education*.²¹⁴

Henry J. Otto, Ph.D., *Professor of Elementary Education; Professor of Educational Administration*.²¹⁵

²¹³Modified service.

²¹⁴Absent on leave for 1945-1946.

²¹⁵Appointment effective February 1, 1942.

Clara May Parker, Ph.D., *Professor of Curriculum and Instruction*.²¹⁶
Mrs. Cora Merriman Martin, Ph.D., *Professor of Elementary Education*.

Ira Irl Nelson, Ph.D., *Professor of Curriculum and Instruction; Principal of the University High School.*

James Willis Baldwin, Ph.D., Litt.D., *Associate Professor of Curriculum and Instruction*.

Hob Gray, Ph.D., *Associate Professor of Curriculum and Instruction*.²¹⁷

Mrs. Corrie Walker Allen, Ph.D., *Associate Professor of Curriculum and Instruction; Sponsor of the J. L. Henderson Textbook Collection*.²¹⁸

Mrs. Connie Garza Brockette, M.A., *Assistant Professor of Curriculum and Instruction; Special Instructor in Romance Languages*.²¹⁹

Frederick Joseph Adams, M.A., Ed.D., *Professor of Educational Psychology*.²²⁰

Charles Flinn Arrowood, Ph.D., D.Litt., *Professor of the History and Philosophy of Education*.

Doris Lavinia Buchanan, M.A., B.S. in H.E., *Assistant Professor of Home Economics*.²²¹

Alvan Lothair Chapman, Ph.D., *Associate Professor of Educational Administration; Director of the Bureau of Research in Education by Radio*.²²²

Clyde C. Colvert, Ph.D., *Professor of Educational Administration; Professor and Consultant in Junior College Education*.²²³

Oscar Berry Douglas, Ph.D., *Professor of Educational Psychology; Consultant in Child Development*.²²⁴

Charlotte Estelle DuBois, M.A., *Assistant Professor of Music Education; Director of the Girls' Glee Club*.

²¹⁶Appointment also as *Instructor in English* for the Fall Term of 1944-1945.

²¹⁷Absent on leave for the second semester of 1942-1943 and for the session of 1943-1944; appointment also as *Special Instructor in Psychology* for the Fall Term of 1944-1945.

²¹⁸Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 15, 1942; absent on leave from November 16, 1943, to March 1, 1944. Appointment as *Sponsor of the J. L. Henderson Textbook Collection* effective September 1, 1944.

²¹⁹Appointment as *Special Instructor in Romance Languages* for the Fall Term of 1943-1944; absent on leave, effective November 1, 1943.

²²⁰Appointment changed from *Associate Professor* to *Professor*, effective September 15, 1942; absent on leave from October 4, 1942, to March 1, 1946, military service.

²²¹Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1945; resignation effective October 31, 1945.

²²²Absent on leave for the second semester of 1942-1943; absent on leave from September 1, 1943, to March 1, 1946, military service. Appointment as *Associate Professor of Educational Administration* effective March 1, 1946.

²²³Appointment effective November 1, 1944.

²²⁴Appointment changed from *Associate Professor* to *Professor*, effective February 1, 1942.

Robert Bernard Fitzgerald, M.Mus., *Assistant Professor of Music Education; Director of the Men's Glee Club; Director of the Symphonic Band.*
 Bess Heflin, M.A., *Professor of Home Economics.*²²⁵
 Archie N. Jones, M.A., Mus.D., *Professor of Music Education.*
 Alexander Simeon Masley, B.S., *Assistant Professor of Art.*²²⁶
 Newton Edd Miller, Jr., M.A., B.S. in Ed., *Instructor in Speech.*
 Eugene Gordon Minter, B.A., M.F.A., *Associate Professor of Technical Production, Department of Drama.*²²⁷
 James William Moll, M.A., *Instructor in Drama.*²²⁸
 Mrs. June Madison Moll, B.A. in Ed., *Instructor in Drama.*²²⁹
 Sallie Beth Moore, M.A., *Assistant Professor of Home Economics.*²³⁰
 DeWitt Carter Reddick, Ph.D., B.J., *Professor of Journalism.*²³¹
 Ione Pettey Spears, M.A., *Assistant Professor of History.*²³²
 Josephine Helen Staab, M.A., *Assistant Professor of Home Economics.*²³³
 Florence Mae Stullken, B.A., M.B.A., *Assistant Professor of Business Administration.*
 Frank Loren Winship, M.A., *Associate Professor of Drama; Director of Dramatics, Bureau of Public School Service.*²³⁴

Courses in Elementary Education

Junior Courses

[322T. *Children's Literature.*—Development, types, classification, and teaching of literature for elementary-school children. Includes examination and analysis of children's books and story-telling. Prerequisite: Education 311 and 312, or 314Q or 14Q; junior standing. Three lectures a week for one semester. Mrs. Martin.

[326T. *Dramatics in the Elementary and Junior High School.*—Same as Drama 326. Prerequisite: Drama 1 or its equivalent, junior standing, and consent of the instructor and the Chairman of the Department of Drama. Two lectures and three laboratory hours a week for one semester and crew work as assigned. Mr. Minter, Mr. Moll. (Offered for the first time in 1941-1942 but not given; not given after 1942-1943.)]

27a.i. *Methods and Observation in Elementary Schools.*—Before seeking admission to this course, students are expected to meet normally accepted

²²⁵Absent on leave for the Fall Term of 1944-1945.

²²⁶Appointment effective September 1, 1943.

²²⁷Absent on leave for the second semester of 1942-1943 and for the session of 1943-1944; appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1944.

²²⁸Resignation effective September 24, 1942; military service.

²²⁹Appointment effective September 25, 1942; resignation effective June 30, 1945.

²³⁰Appointment effective September 1, 1944; absent on leave for the Fall Term of 1945-1946.

²³¹Absent on leave for the first semester of 1941-1942; appointment changed from *Associate Professor* to *Professor*, effective February 1, 1942.

²³²Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1945.

²³³Absent on leave for 1945-1946.

²³⁴Absent on leave, effective June 23, 1943; military service.

standards of health and speech. Prerequisite: Completion of at least seventy-five hours of college work; eighteen hours of education, including Education 314Q or 14Q, 18, and 32; an average grade of at least *C* for all courses in education undertaken at The University of Texas and for all other courses undertaken at the University. Three lectures a week for one semester.

27b. Methods and Student-Teaching in Elementary Schools.—Prerequisite: Education 27a taken at The University of Texas; senior standing. The equivalent of three lectures a week for one semester.

27K. Special Methods and Student-Teaching in Nursery School.—Teaching methods and program planning for the Nursery School, through class discussion and supervised participation. Prerequisite: Education 314Q, either 322T or 340, and senior standing in the child development program; an average grade of at least *C* in education courses and in home economics. Before seeking admission to this course, students are expected to meet normally accepted standards of health and speech. Six lectures a week for one semester. Laboratory: One hundred hours of observation and participation during the semester. Miss Moore. (Given for the first time in 1944-1945.)

331. Curriculum and Instruction in the Primary Grades.—Education 331 and 32 may not both be counted. Study of the principles of instruction and an examination of the materials of instruction in the first, second, and third grades. Includes intensive laboratory activity in curriculum organization. Prerequisite: Education 314Q and 318; junior standing; an average grade of at least *C* for all education courses undertaken at The University of Texas and for all other courses undertaken at the University. Three lectures a week for one semester. Mrs. Martin. (Not to be offered after 1946-1947.)

332. Curriculum and Instruction in Intermediate Grades, with Emphasis upon Language Arts.—Materials and instruction for teaching reading, literature, language, spelling, and writing in the fourth, fifth, and sixth grades. Includes an examination of textbooks, courses of study, tests, and scientific studies; intensive laboratory activity in curriculum organization. Prerequisite: Education 314Q and 318; junior standing; an average grade of at least *C* for all education courses undertaken at The University of Texas and for all other courses undertaken at the University. Three lectures a week for one semester. Mrs. Allen. (Not to be offered after 1946-1947.)

32. Curriculum and Instruction in Fields Other Than Language Arts in the Elementary School.—Only one of the following may be counted: Education 32, 331, 332T. Covers content, grade placement, methods, and materials in the three fields mentioned. Prerequisite: Education 18; an average grade of at least *C* for all education courses undertaken at The University of Texas and for all other courses undertaken at the University. Six lectures a week for one semester. (To be offered for the first time in 1945-1946.)

32K. Fundamentals of Elementary- and Secondary-School Drama.—Same as Drama 32. Education 32K and 23T (or 326T) may not both be counted. Introductory study of elementary- and secondary-school dramatics designed for prospective teachers on these levels. Theory and practice in creative

drama, directing, and production for public schools. Prerequisite: Drama 1 or its equivalent, junior standing, and permission of the Chairman of the Department of Drama. Two lectures and six laboratory hours a week for two semesters and crew work as assigned. Mrs. Moll. (Given as education for the first time in 1943-1944.)

332T. Curriculum and Instruction in the Intermediate Grades.—Teaching materials and problems of instruction presented by the social studies, arithmetic, and the special subjects in the fourth, fifth, and sixth grades. Includes examination of textbooks, courses of study, tests, and literature on the different subjects; intensive laboratory activity in curriculum organization. Prerequisite: Education 314Q and 318; junior standing; an average grade of at least C for all education courses undertaken at The University of Texas and for all other courses undertaken at the University. Three lectures a week for one semester. Mrs. Allen. (Not to be offered after 1946-1947.)

335T. The Integrated Elementary School Program.—A scientific approach to the trend of development from the subject curriculum to the integrated program; activity as the integrating force in the elementary school curriculum. Prerequisite: Education 314Q and 318; junior standing; an average grade of at least C for all education courses undertaken at The University of Texas and for all other courses undertaken at the University. Three lectures a week for one semester. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

44Ta.i, 44Tb.i. Art Education.—Same as Art 44. Education 44T and Art 27 may not both be counted. Curriculum and instruction in elementary- and secondary-school art, for students majoring in art education. Prerequisite: Art 11 or the equivalent, with a grade of at least C; Education 311 and 312, or 314 and 317; approval of the faculty of the Department of Art. Two lectures and four laboratory hours a week for two semesters. Laboratory fee, \$2 a semester. Mr. Masley. (Given for the first time in 1944-1945.)

454Ma.i. Curriculum and Instruction in Elementary-School Music.—Same as Music 454a. Students with credit for Education 252T or 254T may not receive credit for Education 454Ma. Techniques of music instruction in grades one, two, and three. Includes rote and folk songs, sight singing, rhythmic games, folk dancing, and creative music activities. Prerequisite: Education 312 or 318, and Music 450 or 413; or junior standing in music; an average grade of at least C for all education courses undertaken at The University of Texas and for all other courses undertaken at the University. Two lectures and three laboratory hours a week for one semester. Miss DuBois.

454Mb.i. Curriculum and Instruction in Elementary-School Music.—Same as Music 454b. Students with credit for Education 252T or 254T may not receive credit for Education 454Mb. Techniques of music instruction in grades four, five, and six. Prerequisite: Education 312 or 318, and Music 450 or 413; or junior standing in music; an average grade of at least C for all education courses undertaken at The University of Texas and for all other courses undertaken at the University. Two lectures and three laboratory hours a week for one semester. Miss DuBois.

Senior and Graduate Courses

264T. Advanced Course in Curriculum and Instruction in the Language Arts in the Elementary School.—Emphasis upon recent research and publications of learned societies dealing with curriculum, methods, and materials of instruction in reading, language, grammar, composition, spelling, and penmanship in all grades of the elementary school. Prerequisite: Education 322T, and 331 or 332, or the equivalent; experience in teaching or graduate standing. Two lectures a week for one semester. Mr. Otto. (Given for the first time in 1942-1943; not given in 1944-1945.)

265T. Advanced Course in Curriculum and Instruction in Arithmetic in the Elementary School.—Emphasis upon recent research and publications of learned societies dealing with curriculum, methods, and materials of instruction in arithmetic in all grades of the elementary school. Prerequisite: Education 331 or 332T or the equivalent; experience in teaching or graduate standing. Two lectures a week for one semester. Mr. Otto. (Given for the first time in 1942-1943; not given in 1944-1945.)

266T. Advanced Course in Curriculum and Instruction in the Social Studies in the Elementary School.—Emphasis upon recent research and publications of learned societies dealing with curriculum, methods, and materials of instruction in social studies in all grades of the elementary school. Prerequisite: Education 331 or 332T or the equivalent; experience in teaching or graduate standing. Two lectures a week for one semester. Mr. Otto. (Given for the first time in 1942-1943.)

268T. Advanced Course in Curriculum and Instruction in Science in the Elementary School.—Emphasis upon recent research and publications of learned societies dealing with curriculum, methods, and materials of instruction in science in all grades of the elementary school. Prerequisite: Education 331 or 332T or the equivalent; experience in teaching or graduate standing. Two lectures a week for one semester. Mr. Otto. (Given for the first time in 1942-1943.)

377T. Problems in Elementary Education.—Intensive studies of special problems in curriculum and instruction in elementary schools. Prerequisite: Six hours of advanced elementary education; senior standing; an average grade of at least C for all education courses undertaken at The University of Texas and for all other courses undertaken at the University. Three lectures a week for one semester. Mrs. Martin. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

381E. Seminar in Elementary-School Curriculum and Instruction.—Research problems for students who wish to do intensive research in elementary-school curriculum and instruction. Prerequisite: Twelve hours of advanced elementary education and graduate standing. Two lectures a week for one semester. Mr. Otto. (Given for the first time in 1941-1942; not given in 1942-1943.)

Courses in Secondary Education**Junior Courses**

20Kb. Fundamentals of Secondary Education: Institutional Aspects.—Education 20Kb and 317 may not both be counted. Education 20Kb may be taken independently by home economics education majors. The secondary school and the adolescent child. Combines, in an integrated sequence, materials traditionally presented in educational psychology, curriculum and instruction, and other departments. Prerequisite: Education 311 and 312, or their equivalent. Three lectures and one laboratory hour a week for one semester. Mr. Arrowood, Mr. Umstattd, Mr. Baldwin, Mr. Hob Gray, Mrs. Allen. (Given for the first time in 1941-1942.)

321T. Curriculum and Instruction in Secondary-School Speech.—Same as Speech 321. Prerequisite: Education 314 and 317, or 311 and 312. Three lectures a week for one semester. Mr. Miller. (Not given in 1941-1942 or 1942-1943.)

23a.i, 23b. Curriculum and Instruction in Secondary-School Spanish.—Prerequisite: Spanish 12 or 13; Education 311 and 312, or 314 and 317. Three lectures a week for two semesters. Mrs. Brockette. (Given as 323 in 1941-1942; not given in 1943-1944 or 1944-1945.)

[*23T. Directing the High-School Play.*—Same as Drama 23. Prerequisite: Drama 1 or its equivalent, junior standing, and consent of the instructor and the Chairman of the Department of Drama. Two lectures and three laboratory hours a week for the first semester; two lectures and six laboratory hours a week for the second semester; and crew work as assigned. Mr. Winship, Mr. Minter, Mr. Moll. (Given for the first time in 1941-1942; not given after 1942-1943.)]

326. Curriculum and Instruction in Secondary-School English.—Prerequisite: Twelve hours of English; Education 311 and 312, or 314 and 317; junior standing. Three lectures a week for one semester. Miss Parker.

[*326T. Dramatics in the Elementary and Junior High School.*—Same as Drama 326. Prerequisite: Drama 1 or its equivalent, junior standing, and consent of the instructor and the Chairman of the Department of Drama. Two lectures and three laboratory hours a week for one semester and crew work as assigned. Mr. Minter, Mr. Moll. (Given for the first time in 1941-1942; not given after 1942-1943.)]

27a.i. Methods and Observation in Secondary Schools.—Before seeking admission to this course, students are expected to meet normally accepted standards of health and speech. Prerequisite: Completion of at least seventy-five hours of college work; Education 314 and 317, or 20K; an average grade of at least C in education courses and a C average in the teaching subject. Students preparing to teach art, drama, music, and physical and health education must meet, in addition, the following special requirements:

Art: Art 27 with a grade of at least *C*, senior standing, and consent of instructor.

Drama: Drama 32 with a grade of at least *B*; senior standing; consent of instructor; Education 311 and 312 (or, in case of students transferring from other institutions and having the prerequisites, 314 and 317, or 20K), with an average grade of at least *C* in education courses and in academic courses outside the teaching field.

Music: Senior standing in music.

Physical and health education: Senior standing and consent of the Chairman of the Department.

Three lectures a week for one semester.

27b. *Methods and Student-Teaching in Secondary Schools*.—Prerequisite: Education 27a taken at The University of Texas; senior standing. The equivalent of three lectures a week for one semester.

27. *Special Methods and Student-Teaching in Home Economics*.—Prerequisite: Education 337, senior standing, and an average of at least *C* in education courses and in home economics. Six lectures a week for one semester. Miss Heflin, Miss Staab, Miss Buchanan.

329. *Curriculum and Instruction in Secondary-School History*.—Same as History 329. Prerequisite: Twelve hours of history; Education 311 and 312, or 314 and 317. Three lectures a week for one semester. Miss Spears. (Not given in 1944-1945.)

330T. *Literature for Adolescents*.—Designed for prospective teachers in junior and senior high schools and any others interested in the development of adolescents through reading. Prerequisite: Education 311 and 312, or 314 and 317; junior standing. Three lectures a week for one semester. Mrs. Allen. (Given for the first time in 1942-1943; not given in 1944-1945.)

32K. *Fundamentals of Elementary- and Secondary-School Drama*.—Same as Drama 32. Education 32K and 23T (or 326T) may not both be counted. Introductory study of elementary- and secondary-school dramatics designed for prospective teachers on these levels. Theory and practice in creative drama, directing, and production for public schools. Prerequisite: Drama 1 or its equivalent, junior standing, and permission of the Chairman of the Department of Drama. Two lectures and six laboratory hours a week for two semesters and crew work as assigned. Mrs. Moll. (Given as education for the first time in 1943-1944.)

334. *Curriculum and Instruction in the Junior High School*.—Prerequisite: Education 311 and 312, or 314 and 317; junior standing. Three lectures a week for one semester. Mr. Nelson.

338. *Psychology of Adolescent Control*.—Prerequisite: Education 311 and 312, or 314 and 317; junior standing. Three lectures a week for one semester. Mr. Henderson, Mr. Douglas, Mr. Adams.

44Ta.i, 44Tb.i. Art Education.—Same as Art 44. Education 44T and Art 27 may not both be counted. Curriculum and instruction in elementary- and secondary-school art, for students majoring in art education. Prerequisite: Art 11 or the equivalent, with a grade of at least *C*; Education 311 and 312, or 314 and 317; approval of the faculty of the Department of Art. Two lectures and four laboratory hours a week for two semesters. Laboratory fee, \$2 a semester. Mr. Masley. (Given for the first time in 1944–1945.)

348. Curriculum and Instruction in Secondary-School Social Studies.—Prerequisite: Education 311 and 312, or 314 and 317; junior standing. Three lectures a week for one semester. Mr. Baldwin. (Not given in 1944–1945.)

349J. Supervision of the High-School Newspaper.—Same as Journalism 349. Problems of directing preparation of news stories, features, editorials, make-up, and circulation campaigns for the school newspaper; use of journalism in school public relations; preparing a course of study for high-school journalism classes. Prerequisite: Junior standing. Mr. Reddick. (Given only in the summer.)

358M. Curriculum and Instruction in Instrumental Music.—Same as Music 358. Prerequisite: Music 422a, 200.1, 200.2, 200.7, 200.9. Three lectures a week for one semester. Mr. Fitzgerald. (Given as education for the first time in 1943–1944.)

359M. Curriculum and Instruction in Secondary-School Music.—Same as Music 359. Prerequisite: Education 312 and junior standing in music. Three lectures a week for one semester. Mr. Jones. (Given as education for the first time in 1943–1944.)

Senior and Graduate Courses

369T. Advanced Course in Curriculum and Instruction in Secondary-School Mathematics.—General survey of the problems of teaching secondary-school mathematics, followed by intensive study of one problem by each student on a pre-thesis basis. Prerequisite: Education 311 and 312, or 314 and 317; twelve hours of college mathematics. Three lectures a week for one semester. Mr. Nelson. (Offered for the first time in 1942–1943 but not yet given.)

78a.i. Curriculum and Instruction in Vocational Business Subjects.—May count as business administration. Subject matter and methods for teaching secretarial courses, bookkeeping, arithmetic, and allied subjects in high school. Prerequisite: Twelve hours of advanced business administration, Education 378M, and senior standing. Three lectures a week for one semester. Miss Stullken. (Given as Education 78a.i for the first time in 1941–1942; not given in 1942–1943 or 1944–1945.)

78b.i. Curriculum and Instruction in Social Business Subjects.—May count as business administration. Subject matter and methods for teaching the social and salesmanship courses taught in high schools. Prerequisite: Twelve hours of advanced business administration, Education 378M, and senior standing.

Three lectures a week for one semester. Miss Stullken. (Given as Education 78b.i for the first time in 1942-1943; not given in 1943-1944.)

378M. Recent Trends in the Teaching of Business Subjects.—May count as business administration. Trends in business curricula, integration between business and business subjects, guidance, vocational aspects. Prerequisite: Six hours of advanced business administration; Education 314 (or Psychology 316) and 317, or 311 and 312; senior standing. Three lectures a week for one semester. Miss Stullken. (Given for the first time in 1941-1942.)

378T. Survey Course in Curriculum and Instruction in English Language.—Prerequisite: Six hours of advanced English and six hours of advanced education. Three lectures a week for one semester. Miss Parker. (Not given in 1942-1943.)

381, 81. Seminar in Secondary Education.—Prerequisite: Twelve hours of advanced education, consent of instructor, and graduate standing. Mr. Henderson, Mr. Umstattd.

382T. Problems of College Teaching.—Trends in college curriculum and instruction for prospective college teachers in academic and education fields. Prerequisite: Graduate standing in the University and an interest in teaching at the college level. Mr. Umstattd, Mr. Colvert. (Given for the first time in 1942-1943; given as 282T in 1942-1943 and 1943-1944.)

83M. Special Problems in Music Education.—Same as Music 83K. Survey and analysis of special curricular and administrative problems in music education, with particular attention to a chosen unit of work based on research. Prerequisite: Graduate standing in music or education; twelve hours of advanced music education; consent of instructor. Mr. Jones. (To be offered as education for the first time in 1945-1946.)

386. Problems in Teaching Secondary Home Economics.—Prerequisite: Graduate standing in home economics, Education 27, and preferably one year of teaching experience. Miss Staab. (Not given in 1943-1944 or 1944-1945.)

390. Materials and Methods for Adult Education in Homemaking.—Prerequisite: Graduate standing in home economics, Education 27, and preferably one year of teaching experience. Miss Heflin. (Not given in 1942-1943 or 1943-1944.)

393. Seminar in Home Economics Education.—Prerequisite: Education 386 or 390. Miss Heflin, Miss Staab. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

General Courses in Curriculum and Instruction

Junior Course

357T. Use of Radio in Classroom Instruction.—Prerequisite: Education 311 and 312, or 314 and 317; junior standing. Three lectures a week for one semester. Laboratory fee, \$2. Mr. Chapman. (Not given in 1943-1944 or 1944-1945.)

Senior and Graduate Courses

61a.i, 61b.i. Fundamentals of Curriculum Development.—Education 61b and 368 may not both be counted. Prerequisite: Six hours of advanced education. Two lectures a week for two semesters. Mr. Umstattd.

375. Survey Course in Modern Methods of Teaching.—Prerequisite: Six hours of advanced education and senior standing. Three lectures a week for one semester. Mr. Henderson.

376T. Directing Study.—Prerequisite: Six hours of advanced education and senior standing. Three lectures a week for one semester. Mr. Hob Gray. (Not given in 1941–1942, 1942–1943, or 1943–1944.)

280T. The Direction of Student-Teaching.—Designed primarily for Austin and nearby teachers in whose classrooms students pursue their student-teaching. Some treatment of recent developments in curriculum and instruction, but mainly a course in the objectives, activities, and evaluation of student-teaching from the viewpoint of the directing teacher. Prerequisite: Twelve hours of advanced education, graduate standing, and at least two years of experience in teaching. Two lectures a week for one semester. Mr. Umstattd. (Not given in 1942–1943, 1943–1944, or 1944–1945.)

82M. Seminar in Music Education.—Same as Music 82. Survey and discussion of research studies in music education. Review and criticism of philosophies and curricula in music education. Prerequisite: Graduate standing in music; twelve hours of advanced music education; consent of instructor. Three lectures a week for two semesters. Mr. Jones. (Given as education for the first time in 1942–1943; not given in 1943–1944.)

397. Seminar in Curriculum Research.—Prerequisite: Twelve hours of advanced education, including Education 361; consent of instructor. Mr. Umstattd. (Given as 297 in 1942–1943.)

98. Thesis Course for the Master's Degree.—Students in curriculum and instruction should enroll in Section 1; students in home economics education, in Section 6; students in junior college education, in Section 7. Prerequisite for Sections 1 and 7: Twelve hours of advanced education, including a sufficient background for the proposed thesis, and graduate standing.

Section 1. Curriculum and Instruction. Mr. Henderson, Miss Parker, Mr. Umstattd, Mr. Nelson, Mrs. Martin, Mr. Otto.

Section 6. Home Economics Education. Prerequisite: Education 27 (student-teaching in home economics), three hours of graduate home economics education, and six additional hours of advanced education, including such preparation as the instructor considers necessary, and graduate standing. Miss Heflin.

Section 7. Junior College Education. Mr. Colvert.

99. Thesis Course for the Doctor's Degree.—Prerequisite: Admission to candidacy for the doctor's degree.

Section 1. Curriculum and Instruction. Mr. Henderson, Mr. Umstattd, Mr. Nelson, Mr. Otto.

Section 7. Junior College Education. Mr. Colvert.

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

Benjamin Floyd Pittenger, Ph.D., *Professor of Educational Administration; Dean of the College of Education.*

Fred Carleton Ayer, Ph.D., *Professor of Educational Administration.*

Homer Price Rainey, Ph.D., LL.D., *President; Professor of Educational Administration.*²³⁵

Henry J. Otto, Ph.D., *Professor of Educational Administration; Professor of Elementary Education.*²³⁶

James Oscar Marberry, Ph.D., *Professor of Educational Administration; Director of the Extension Teaching Bureau.*²³⁷

Clyde C. Colvert, Ph.D., *Professor of Educational Administration; Professor and Consultant in Junior College Education.*²³⁸

Lonnie Bryan Ezell, M.A., Ed.D., *Assistant Professor of Educational Administration.*²³⁹

Washington Irving Ball, Ph.D., *Assistant Professor of Educational Administration, College of Education and Extension Teaching Bureau.*²⁴⁰

Thomas Hall Shelby, M.A., *Professor of Educational Administration; Dean of the Division of Extension.*

Annie Webb Blanton, Ph.D., *Professor of Educational Administration.*²⁴¹

Alvan Lothair Chapman, Ph.D., *Associate Professor of Educational Administration; Director of the Bureau of Research in Education by Radio.*²⁴²

Bess Heflin, M.A., *Professor of Home Economics.*²⁴³

²³⁵Services as President terminated November 1, 1944.

²³⁶Appointment effective February 1, 1942.

²³⁷Died November 25, 1944.

²³⁸Appointment effective November 1, 1944.

²³⁹Absent on leave from September 15, 1942, to September 1, 1945; military service.

²⁴⁰Appointment in the College of Education effective September 1, 1945.

²⁴¹Modified service; resignation effective July 31, 1945; died October 2, 1945.

²⁴²Absent on leave for the second semester of 1942-1943; absent on leave from September 1, 1943, to March 1, 1946, military service. Appointment as Associate Professor of Educational Administration effective March 1, 1946.

²⁴³Absent on leave for the Fall Term of 1944-1945.

Ira Irl Nelson, Ph.D., *Professor of Curriculum and Instruction; Principal of the University High School.*

Josephine Helen Staab, M.A., *Assistant Professor of Home Economics.*²⁴⁴

Junior Courses .

337. Organization and Administration of Home Economics.—Prerequisite: Education 311 and 312, or 314 and 317, and eighteen hours of home economics. Three lectures a week for one semester. Miss Heflin, Miss Staab.

348K. The Administration of Adult Education.—Brief review of the adult education movement. Considers present tendencies, future possibilities, extension teaching programs, foreign-adult education programs, adult learning ability, and techniques of adult instruction. Prerequisite: Twelve hours of education, or Education 311 and 312. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

Senior and Graduate Courses

260, 360. Problems of School Support.—Prerequisite: Six hours of advanced education, preferably Education 361H and 365K; Economics 313 and Business Administration 811 are strongly advised. Mr. Pittenger. (Not given in 1942-1943 or 1943-1944.)

460Ha.i, 460Hb.i. Organization and Administration of the Elementary School.—Education 460H and 458 may not both be counted. Prerequisite: Six hours of advanced education. Two lectures a week for two semesters. Mr. Otto. (Given as 460Ha.i, 460Hb.i for the first time in 1942-1943.)

360R. Problems in Educational Broadcasting.—Prerequisite: Twelve semester hours of advanced education. Laboratory fee, \$2. Three lectures a week for one semester. Mr. Chapman. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

361H. Public School Organization and Administration.—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Pittenger. (Prior to 1941-1942 given as a junior course, Education 321.)

462a.i. Child Accounting.—Needs for pupil records. Problems and organization of school census, attendance, school population, classification and grade placement, school progress, measurement, adjustment, and guidance. Prerequisite: Six hours of advanced education, preferably Education 361H and 365K. Two lectures a week for one semester. Mr. Ayer. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

462b.i. Child Accounting.—Practices and techniques of child accounting. Courses, attendance, progress, achievement, classification and guidance records and reports. Principles and systems of child accounting. Prerequisite: Six semester hours of advanced education, preferably Education 361H and 365K. Two lectures a week for one semester. Mr. Ayer. (Not given in 1943-1944 or 1944-1945.)

²⁴⁴Absent on leave for 1945-1946.

362. *Child Accounting*.—Same as both Education 462a.i and 462b.i, but a shorter course. Prerequisite: Six hours of advanced education, preferably Education 361H and 365K. Three lectures a week for one semester. Mr. Ayer. (Not given in 1941-1942, 1942-1943, or 1943-1944.)

363. *State and County Education: Organizational Aspects*.—Prerequisite: Six hours of advanced education, preferably Education 361H and 365K. Three lectures a week for one semester. Mr. Pittenger. (Given as Education 463a.i in 1941-1942; not given in 1942-1943 or 1943-1944.)

364K. *Organization and Administration of the Junior High School*.—Origin, development, and forms of organization and administration of the junior high school. Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Nelson. (Prior to 1941-1942 given as a junior course, Education 333; not given in 1942-1943, 1943-1944, or 1944-1945.)

265, 365. *Administration of Extracurricular Activities*.—Prerequisite: Six hours of advanced education. Two lectures a week for one semester. Mr. Shelby. (Not given in 1943-1944 or 1944-1945.)

365K. *Public School Supervision*.—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Ayer. (Prior to 1941-1942 given as a junior course, Education 341.)

369. *High-School Administration*.—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Ezell. (Not given in 1943-1944 or 1944-1945.)

370K. *Rural Education*.—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Miss Blanton. (Prior to 1941-1942 given as a junior course, Education 350; not given in 1944-1945.)

370L. *Administration and Supervision of Rural Schools*.—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Miss Blanton. (Prior to 1941-1942 given as a junior course, Education 351; not given in 1943-1944.)

279, 379. *School Buildings and Equipment*.—Prerequisite: Six hours of advanced education, preferably Education 361H and 365K; or satisfaction of the requirements for the degree of Bachelor of Architecture at this University or the equivalent. Two lectures a week for one semester. Mr. Ezell. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

383, 83. *Seminar in Educational Administration*.—Prerequisite: Twelve hours of advanced education and consent of instructor, or six hours of advanced education and graduate standing. Mr. Ayer.

383E. *Seminar in Elementary-School Administration*.—Special research and thesis problems in elementary-school administration. Prerequisite: Twelve hours of advanced education and consent of instructor, or six hours of advanced education and graduate standing. Mr. Otto. (Given for the first time in 1941-1942; not given in 1944-1945.)

383J. Problems in Junior College Administration.—Problems of junior college administration and of related instructional problems. Individual research and reports; group readings and discussion. Prerequisite: Twelve hours of advanced education and graduate standing. Mr. Colvert. (Given for the first time in 1944–1945.)

383W. War Emergency Problems in School Administration.—A seminar, problem-study course on current issues in public school administration resulting from the war emergency. Prerequisite: Twelve hours of advanced education; graduate standing or consent of instructor. Mr. Pittenger. (Given for the first time in 1943–1944; not given in 1944–1945.)

387. The Junior College.—Prerequisite: Twelve hours of advanced education and graduate standing. Three lectures a week for one semester. Mr. Colvert. (Not given in 1941–1942, 1942–1943, or 1943–1944.)

98. Thesis Course for the Master's Degree.—Prerequisite: Twelve hours of advanced education, including such preparation as the instructor considers necessary for the thesis; graduate standing.

Section 2. Educational Administration. Mr. Pittenger, Mr. Ayer, Mr. Otto, Mr. Ezell.

Section 7. Junior College Education. Mr. Colvert.

99. Thesis Course for the Doctor's Degree.—Prerequisite: Admission to candidacy for the doctor's degree.

Section 2. Educational Administration. Mr. Pittenger, Mr. Ayer, Mr. Otto.

Section 7. Junior College Education. Mr. Colvert.

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

Clarence Truman Gray, Ph.D., *Professor of Educational Psychology*.

Herschel Thurman Manuel, Ph.D., *Professor of Educational Psychology; Director of the Testing and Guidance Program.*²⁴⁵

George Isidore Sánchez, B.A., Ed.D., *Professor of Latin-American Education.*²⁴⁶

Oscar Berry Douglas, Ph.D., *Professor of Educational Psychology; Consultant in Child Development.*²⁴⁷

Frederick Joseph Adams, M.A., Ed.D., *Professor of Educational Psychology.*²⁴⁸

²⁴⁵Appointment as *Director of the Testing and Guidance Program* effective September 1, 1942.

²⁴⁶Absent on leave for 1943–1944 and for the Fall Term and Winter Semester of 1944–1945.

²⁴⁷Appointment changed from *Associate Professor* to *Professor*, effective February 1, 1942.

²⁴⁸Appointment changed from *Associate Professor* to *Professor*, effective September 15, 1942; absent on leave from October 4, 1942, to March 1, 1946, military service.

Benjamin Franklin Holland, Ph.D., *Associate Professor of Educational Psychology.*²⁴⁹

Leigh Peck, Ph.D., *Assistant Professor of Educational Psychology.*²⁵⁰

Ralph Bernard Long, Ph.D., *Assistant Professor of Educational Psychology; Assistant Professor of English.*²⁵¹

Hugo Frederick Schunhoff, M.A., *Visiting Lecturer, Educational Psychology.*²⁵²

David Ballin Klein, Ph.D., *Professor of Psychology.*

Dorothy Louise Gebauer, M.A., *Dean of Women.*

Junior Courses

320D. Speech and Language Development of the Deaf.—Prerequisite: Education 311 and 312, or 314 and either 317 or 318 (or 328T); Education 326D; approval of the Superintendent of the Texas School for Deaf and of the Dean of the College of Education of the University. Three lectures a week for one semester. Mr. Schunhoff. (Not given in 1943-1944 or 1944-1945; not to be given in 1945-1946.)

20Ka. Fundamentals of Secondary Education: Adolescent Development Aspects.—Education 20Ka and 314 may not both be counted. Education 20Ka may be taken independently by home economics education majors. The secondary school and the adolescent child. Combines in an integrated sequence, materials traditionally presented in educational psychology and other departments. Prerequisite: Education 311 and 312 or their equivalent. Three lectures a week for one semester. Mr. C. T. Gray, Mr. Douglas. (Given for the first time in 1941-1942.)

326D. Introduction to Education of the Deaf.—The deaf child and attempts to meet his needs. Includes historical, psychological, and other materials. Prerequisite: Education 311 and 312, or 314 and either 317 or 318 (or 328T); approval of the Superintendent of the Texas School for Deaf and of the Dean of the College of Education of the University. Three lectures a week for one semester. Mr. Schunhoff. (Not given in 1943-1944 or 1944-1945; not to be given in 1945-1946.)

²⁴⁹Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

²⁵⁰Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1943.

²⁵¹Appointment as *Assistant Professor of Educational Psychology* effective September 15, 1942; absent on leave for the Winter Semester of 1945-1946.

²⁵²Appointment for the second semester of 1941-1942 and for the session of 1942-1943.

330. Psychology of Secondary Education.—Prerequisite: Education 311 and 312, or 314 and 317; preferably a course in psychology. Three lectures a week for one semester. Mr. Adams. (Not given in 1943–1944 or 1944–1945; not to be given in 1945–1946.)

338. The Psychology of Adolescent Control.—See Department of Curriculum and Instruction. Mr. Henderson, Mr. Douglas, Mr. Adams.

340. The Pre-School Child.—Education 340 and 313 may not both be counted. Designed for students preparing to work with pre-school children, either in the home or in child service centers. Emphasis on factors influencing mental, social, and emotional development. Prerequisite: Education 311 and 312, or 314 and 317, or 314Q and 318. Three lectures a week for one semester. Miss Peck.

342K. Problems for Advisors of Students.—Prerequisite: Twelve hours of education or Education 311 and 312. Three lectures a week for one semester. Miss Gebauer. (Not given in 1943–1944.)

343. Child Development in Relation to the Elementary-School Subjects.—A study of the processes, activities and problems in child development as these relate to the mastery of the more important elementary school subjects. Prerequisite: Education 311 and 312, or 314 and 317, or 314Q and 318. Three lectures a week for one semester. Mr. Douglas. (Not given in 1943–1944 or 1944–1945.)

355. Mental and Educational Measurement.—Education 355 and 380P may not both be counted. Prerequisite: Education 314 and 317, or 311 and 312. May count as psychology if preceded by six hours of psychology. Three lectures a week for one semester. Mr. Manuel.

359. Use of Visual Aids in Secondary Education.—Prerequisite: Twelve hours of education, or Education 311 and 312. Two lectures and additional laboratory work a week for one semester. Laboratory fee, \$2. Mr. Holland.

359Q. Use of Visual Aids in Elementary Education.—Prerequisite: Twelve hours of education, or Education 311 and 312. Two lectures and additional laboratory work a week for one semester. Laboratory fee, \$2. Mr. Holland. (Given for the first time in the Long Session in 1943–1944.)

Senior and Graduate Courses

362P. Education of Minority Groups.—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Sánchez. (Not given in 1943–1944 or 1944–1945.)

364. Problems in Mental Inheritance.—Prerequisite: Six hours of advanced education, preferably in educational psychology. Three lectures a week for one semester. Mr. Gray. (Not given in 1942–1943, 1943–1944, or 1944–1945; not to be given in 1945–1946.)

364P. *Education of the Spanish-Speaking Child.*—Education 364P and 352 may not both be counted. Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Sánchez. (Not given in 1943-1944.)

65Pa.i, 65Pb.i. *Field Studies in Latin-American Education.*—A field-laboratory course dealing with problems in the education of the Spanish-speaking child. Prerequisite: Six hours of advanced education. Mr. Sánchez. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

366P. *Vocational and Educational Guidance.*—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Adams. (Prior to 1941-1942 given as a junior course, Education 347; not given in 1942-1943.)

370. *Practice in Mental and Educational Measurement.*—May count as psychology if preceded by six hours of psychology. Prerequisite: Education 355 or its equivalent, and three additional hours of advanced education. Three lectures a week for one semester. Mr. Manuel. (Not given in 1943-1944 or 1944-1945.)

371. *Educational Statistics.*—Prerequisite: Six hours of advanced education; Education 355 recommended but not required. Three lectures a week for one semester. Mr. Gray. (Given also as Education 271 in 1941-1942.)

371K. *Advanced Educational Statistics.*—Prerequisite: Education 371 and six hours of mathematics. Three lectures a week for one semester. Mr. Gray. (Not given in 1942-1943 or 1943-1944.)

372. *The Psychology of Learning.*—Prerequisite: Six hours of advanced education, preferably educational psychology. Three lectures a week for one semester. Mr. Gray. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

372K. *Advanced Educational Psychology.*—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Gray. (Not given in 1944-1945.)

373P. *The Teaching of English as a Second Language.*—Designed especially for teachers of Latin Americans. Problems of instruction at different levels, both in foreign countries and in the United States. Prerequisite: Senior standing in English, Spanish, Portuguese, French, speech, or education; or consent of instructor. Three lectures a week for one semester. Mr. Long. (Given for the first time in 1942-1943.)

374. *Psychology of Reading.*—An analysis of growth and progress in reading. Diagnosis and remediation. Problems emphasizing the improvement of instruction. Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Douglas. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be offered in 1945-1946.)

374P. Field of Mental Hygiene.—Same as Psychology 348. Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Klein. (Prior to 1941-1942 given as a junior course, Education 344.)

375P. Psychology of the Child Beginning School.—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Miss Peck. (Formerly a junior course, Education 345K; given as 375P for the first time in 1943-1944.)

376. Advanced Vocational and Educational Guidance.—Prerequisite: Six hours of advanced education, including Education 347 or 366P. Three lectures a week for one semester. Mr. Adams. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

376P, 76P. Individual Differences and Exceptional Children.—Prerequisite: Six hours of advanced education. For 376P, three lectures a week for one semester; for 76P, three lectures a week for two semesters. Mr. Manuel. (Formerly a junior course, Education 356; not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

380P. Mental and Educational Measurement for Graduate Students.—Education 380P and 355 may not both be counted. Prerequisite: Six hours of advanced education and graduate standing. Four hours of lecture and demonstration a week for one semester. Mr. Manuel. (Given for the first time in 1941-1942.)

382, 82. Research: Seminar in Educational Psychology.—Prerequisite: Twelve hours of advanced education, or six hours of advanced education and graduate standing; consent of instructor. Mr. C. T. Gray, Mr. Manuel, Mr. Sánchez, Mr. Douglas, Mr. Holland, Miss Peck.

388. Experimental Problems in Education.—Prerequisite: Twelve hours of advanced education and consent of instructor, or six hours of advanced education and graduate standing. Mr. Holland. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

389. Experimental Problems in Education.—Prerequisite: Twelve hours of advanced education and consent of instructor, or six hours of advanced education and graduate standing. Mr. Douglas. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

89Pai, 89Pb.i. Seminar in the Education of Spanish-Speaking Children.—Research problems. Primarily for students who seek to carry out intensive research in this field. Prerequisite: Twelve hours of advanced education and consent of instructor. Mr. Sánchez. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

98. Thesis Course for the Master's Degree.—Section 4. Prerequisite: Twelve hours of advanced education, including such preparation as the instructor considers necessary for the thesis; graduate standing. Mr. C. T. Gray, Mr. Manuel, Mr. Sánchez, Mr. Douglas, Mr. Holland, Miss Peck.

99. *Thesis Course for the Doctor's Degree*.—Section 4. Prerequisite: Admission to candidacy for the doctor's degree. Mr. C. T. Gray, Mr. Manuel, Mr. Sánchez.

DEPARTMENT OF THE HISTORY AND PHILOSOPHY OF EDUCATION

Frederick Eby, Ph.D., LL.D., *Professor of the History and Philosophy of Education*,²⁵³

Charles Flinn Arrowood, Ph.D., D.Litt., *Professor of the History and Philosophy of Education*.

George Isidore Sánchez, B.A., Ed.D., *Professor of Latin-American Education*.²⁵⁴

Clyde C. Colvert, Ph.D., *Professor of Educational Administration; Professor and Consultant in Junior College Education*.²⁵⁵

Junior Course

25. *History of Education*.—Not open to graduate students. Prerequisite: Twelve hours of education or Education 311 and 312; junior standing. Three lectures a week for two semesters. Mr. Eby, Mr. Arrowood, Mr. Sánchez.

Senior and Graduate Courses

60K. *History and Philosophy of Education*.—Education 60K and 25 may not both be counted. Designed for seniors and graduates. Prerequisite: Six hours of advanced education. Three lectures a week for two semesters. Mr. Arrowood. (Given for the first time in 1941-1942; not given in 1944-1945.)

362K. *Education in Mexico*.—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Sánchez. (Not given in 1943-1944 or 1944-1945.)

363K. *Education in Latin America*.—Prerequisite: Six hours of advanced education. Three lectures a week for one semester. Mr. Sánchez. (Not given in 1943-1944.)

367. *Philosophy of Education: Fundamental Principles*.—Prerequisite: Six hours of advanced education; Education 25 or 60K recommended but not required. Three lectures a week for one semester. Mr. Eby.

367K. *Philosophy of Education: Educational Principles*.—Prerequisite: Six hours of advanced education; Education 25 or 60K, and 367 recommended but not required. Three lectures a week for one semester. Mr. Eby.

²⁵³Modified service, effective September 1, 1945.

²⁵⁴Absent on leave for 1943-1944 and for the Fall Term and Winter Semester of 1944-1945.

²⁵⁵Appointment effective November 1, 1944.

369K. *Foundations of Education*.—Prerequisite: Six hours of advanced education; Education 25 or 60K recommended but not required. Three lectures a week for one semester. Mr. Arrowood. (Prior to 1941-1942 given as a junior course, Education 339; not given in 1942-1943.)

80. *Research Course*.—Prerequisite: Education 25 or 60K, consent of instructor, and graduate standing. Mr. Eby, Mr. Arrowood.

384. *Education in Texas*.—Prerequisite: Education 25 or 60K, and six additional hours of advanced education; graduate standing or consent of instructor. Mr. Eby. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

384K. *Present Problems in Texas Education*.—Prerequisite: Education 25 or 60K, and six additional hours of advanced education; graduate standing or consent of instructor. Mr. Eby. (Not given in 1941-1942.)

394. *Seminar in the History of American Education*.—Prerequisite: Education 25 or 60K, and six additional hours of advanced education; graduate standing or consent of instructor. Mr. Arrowood.

394K. *Education and Contemporary Nationalism in Europe and North America*.—Philosophies which underlie governmental policy respecting education in the United States and representative European countries, with such references to educational practices as are necessary to an understanding of principles. Prerequisite: Twelve hours of advanced education; graduate standing or consent of instructor. Education 25, 60K, or 367 recommended but not required. Mr. Arrowood. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

395. *Contemporary Philosophies of Education*.—Prerequisite: Six hours of advanced education and graduate standing. Mr. Eby, Mr. Arrowood. (Not given in 1942-1943.)

396. *Educational Classics*.—Prerequisite: Six hours of advanced education and graduate standing. Mr. Eby, Mr. Arrowood, Mr. Sánchez. (Not given in 1941-1942, 1943-1944, or 1944-1945.)

98. *Thesis Course for the Master's Degree*.—Prerequisite: Twelve hours of advanced education, including such preparation as the instructor considers necessary for the thesis; graduate standing.

Section 3. History and Philosophy of Education. Mr. Eby, Mr. Arrowood, Mr. Sánchez.

Section 7. Junior College Education. Mr. Colvert.

99. *Thesis Course for the Doctor's Degree*.—Prerequisite: Admission to candidacy for the doctor's degree.

Section 3. History and Philosophy of Education. Mr. Eby, Mr. Arrowood, Mr. Sánchez.

Section 7. Junior College Education. Mr. Colvert.

DEPARTMENT OF PHYSICAL AND HEALTH EDUCATION

David Kingsley Brace, Ph.D., *Professor of Physical and Health Education.*²⁵⁶

Aileen Carpenter, Ph.D., *Associate Professor of Physical and Health Education.*²⁵⁷

Emma Pope, M.A., *Assistant Professor of Nursing Education.*²⁵⁸

Mrs. Billie Louise Clark Crook, M.Ed., B.S. in H.E., B.S. in P.Ed., *Assistant Professor of Physical and Health Education.*²⁵⁹

Curtis Jackson Alderson, M.A., LL.B., *Instructor in Physical and Health Education; Assistant Football Coach.*²⁶⁰

Norma Joan Bariteau, M.Ed., B.S. in N.Ed., *Instructor in Nursing Education.*²⁶¹

Marie Buckley, B.S., R.N., *Supervisor of Clinical Instruction, Physical and Health Education.*²⁶²

Ella Mae Dunlap, M.S., R.N., *Instructor in the Nursing Arts, Physical and Health Education.*²⁶³

Miriam Mary Gray, M.A., Ed.D., *Instructor in Physical and Health Education.*²⁶³

Gertrude Xavier Mooney, M.A., *Instructor in Physical and Health Education.*²⁶⁴

Dana Xenophon Bible, B.A., *Athletic Director and Head Football Coach.*

PHYSICAL EDUCATION**Junior Courses**

20. Physical Education Methods.—Athletics (for women).—Not to be counted for graduate credit. Subject matter and method in teaching and officiating sports for girls and women. Fall: Tennis, golf, basketball, and volleyball. Spring: Softball, speedball, soccer, field hockey, and swimming. Prerequisite: Physical Education 10. Physical training must be taken con-

²⁵⁶Absent on leave from November 1, 1943, to July 1, 1944.

²⁵⁷Appointment effective February 1, 1943; died September 8, 1944.

²⁵⁸Appointment for the Winter Semester of 1943-1944 and for the session of 1944-1945.

²⁵⁹Appointment for the Spring Semester of 1944-1945 and for the session of 1945-1946.

²⁶⁰Absent on leave for the second semester of 1941-1942; appointment as *Assistant Football Coach* for the period September 1, 1945, through November 30, 1945.

²⁶¹Appointment for 1944-1945.

²⁶²Appointment for the Spring Semester of 1943-1944.

²⁶³Appointment effective September 1, 1943.

²⁶⁴Absent on leave for 1942-1943; absent on leave, effective September 1, 1943, military service.

currently. Six hours of lecture and practice a week for two semesters. Laboratory fee, \$4.* Miss Gray.

332. *Diagnosis in Physical and Health Education*.—Content and methods of physical examinations of school children and athletes, with practice in the parts of such examinations made by teachers of physical education; first aid. Prerequisite: Six hours of education and Zoology 1 or Physiology 6. Three lectures a week for one semester. Miss Carpenter, Mrs. Crook.

333. *Health Education Methods and Materials for Elementary Schools*.—Subject matter and grade placement, teaching methods and practice in preparation of teaching units. Prerequisite: Six hours of education and Zoology 1 or Physiology 6. Three lectures a week for one semester. Miss Carpenter, Mrs. Crook.

40. *Physical Education Methods for Secondary Schools*.—Methods in teaching activities of a balanced program, including measurement of achievement and some practice-teaching. Fall: Folk, tap, and social dancing. Spring: Gymnastics. Prerequisite: Three hours of education and Physical Education 10 or 11. Physical training is to be taken concurrently. Section 1, for men; Section 2, for women. Five hours of lecture and practice a week, for two semesters. Laboratory fee, \$4.* Mr. Alderson, Miss Gray.

241. *Intramural Athletics for Men*.—Objectives, organization, administration, rules, and play of appropriate sports, officiating problems of high-school and college intramural programs. Prerequisite: Six hours of physical education. Two lectures a week for one semester. Mr. Alderson. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

341W. *Intramural Sports for Women*.—Objectives, organization, administration, rules, and play of appropriate sports, organization of play-days, problems in officiating high-school and college intramural sports. Prerequisite: Six hours of physical education. Three lectures a week for one semester. Miss Mooney. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

342. *Materials and Methods in Teaching Modern Dance* (for women).—Theory, practice, and composition in modern dance. Grade placement of materials and methods for elementary and secondary schools. May be taken as 242 by students not majoring in physical education. Prerequisite: Education 314 and 317, or 311 and 312, and Physical Education 40. For students not majoring in physical education, junior standing and consent of instructor. Six hours of lecture and practice a week for one semester. Laboratory fee, \$2.* Miss Mooney. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

343. *Community Health*.—Introduction to public health functions and problems from the standpoint of the citizen and worker in fields in which public health functions are involved. Laboratory work includes observation and

*In addition to the regular laboratory fee, one service charge of \$1.50, and only one, is required of every woman taking physical training and (or) any one or more of the following courses: Physical Education 10, 310, 20, 40.2, 342, 351.

study of state and city health department laboratories and services. Prerequisite: Junior standing. Five hours of lecture and field work a week for one semester. Laboratory fee, \$2. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

244. *Football Theory and Organization*.—Advanced theory of team play, organization and management of practice, competition, scheduling, trips. Prerequisite: Physical Education 11 and 214. Two lectures and two hours of practice a week for one semester. Laboratory fee, \$2. Mr. Bible. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

[345. *Methods and Materials in Safety Education*.—For teachers in elementary and secondary schools; a study of accidents, preventive measures, school practices, and curriculum problems; includes first aid, traffic safety, and safety at home, school, and work. Prerequisite: Six hours of sophomore education or physical education. (After 1941-1942 given as a senior course, Physical Education 365.)]

351. *Playground Activities and Methods*.—Playground management, program-making, observation and practice of activities and methods. Prerequisite: Six hours of physical education or junior standing. Six hours of lecture and practice a week for one semester. Laboratory fee, \$2.* (Not given in 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

Education 27. Student-Teaching.—See Department of Curriculum and Instruction. Mr. Brace, Mr. Alderson.

Senior and Graduate Courses

360. *Therapeutics of Exercise*.—Individual gymnastics for faulty posture and certain orthopedic disturbances, and conditions demanding special exercise programs. Lectures and posture clinic practice. Prerequisite: Twelve hours of physical education, including Physical Education 332; credit or registration for Physiology 24; senior standing. Section 1, for men; Section 2, for women. Three lectures and two laboratory hours a week for one semester. Laboratory fee, \$2. Miss Carpenter, Mrs. Crook.

363. *Health Education Methods and Materials for Secondary Schools*.—Study of source materials, planning and organizing instruction, and preparation of teaching units. Prerequisite: Six hours of education, credit or registration for Physiology 24, and six hours of advanced education or physical education, including Physical Education 333. For students not majoring in physical education, six hours of advanced education. Three lectures a week for one semester. Miss Carpenter, Mrs. Crook.

365. *Methods and Materials in Safety Education*.—For teachers in elementary and secondary schools; a study of accidents, preventive measures, school

*In addition to the regular laboratory fee, one service charge of \$1.50, and only one, is required of every woman taking physical training and (or) any one or more of the following courses: Physical Education 10, 310, 20, 40.2, 342, 351.

practices, and curriculum problems; includes traffic safety, and safety at home, school, and work. Prerequisite: Six hours of advanced physical education or senior standing. Three lectures a week for one semester. Mr. Alderson. (Prior to the Summer Session, 1942, given as a junior course, Physical Education 345.) (Not given in 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

370. *Principles and Program of Physical Education.*—Consideration of social, political, economic, and historical backgrounds as sources of objectives for program-planning. Examination of courses of study. Prerequisite: Six hours of education and Physical Education 40; for students not majoring in physical education, senior standing. Three lectures a week for one semester. Mr. Brace.

372. *Administration and Supervision of Physical Education.*—Administrative procedures connected with organization, records, reports, equipment, program, and staff; and functions and duties of supervision. Prerequisite: Education 314 and 317, or 311 and 312, and six hours of advanced physical education. For students not majoring in physical education, six hours of advanced education. Three lectures a week for one semester. Mr. Brace. (Not given in 1941-1942.)

374. *Organization and Supervision of Public Recreation.*—Organization and administration of public recreation programs in towns, cities, districts, and states. Problems in promotion of recreation by city, state, and the national government. Prerequisite: Six hours of advanced physical education. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945; not to be given in 1945-1946.)

376. *Tests and Measurements in Health and Physical Education.*—Practice in the use of measurement devices and interpretation of data in health and physical education. Prerequisite: Education 355 or 371 or the equivalent, and six hours of advanced physical education. Three lectures a week for one semester. Mr. Brace. (Not given in 1942-1943, 1943-1944, or 1944-1945.)

380. *Curriculum Construction in Physical and Health Education.*—Approaches in curriculum making, sources and methods for determining objectives, evaluation of courses of study, practice in curriculum making. Prerequisite: Graduate standing and twelve hours of advanced health and physical education. Three lectures a week for one semester. Mr. Brace. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

382, 82. *Conference-Laboratory in Physical and Health Education and Safety Education.*—Individual and group participation in workshops devoted to special problems. May be repeated for credit. Prerequisite: Twelve hours of advanced education or physical education; graduate standing or consent of instructor. For 382, three hours of conference a week for one semester. For 82, three hours of conference a week for two semesters. Mr. Brace. (To be offered for the first time in the Summer Term, 1945.)

Education 385, 85. Seminar in Physical and Health Education.—Study of selected problems. Prerequisite: For students majoring in physical and health education, twelve hours of advanced physical education, graduate standing, and consent of instructor. For other students, twelve hours of advanced education, graduate standing, and consent of instructor. Mr. Brace.

Education 98. Thesis Course for the Master's Degree.—Section 5, Physical Education. Prerequisite or parallel: Graduate standing; eighteen hours of education, six of which must be advanced; twenty-four hours of physical and health education, twelve of which must be advanced; Physiology 6 or its equivalent; nine advanced hours outside the College of Education; at least six hours of advanced physical education taken at The University of Texas to apply on the Master of Education degree. Mr. Brace, Miss Carpenter.

NURSING EDUCATION

Nursing Education, which has been given in the College of Education for a number of years, is being transferred to the School of Nursing in the Medical Branch, Galveston, where the degree of Bachelor of Science in Nursing Education will be granted. This change becomes effective September 1, 1945. The Chairman of the Department of Nursing Education, when she is appointed, and possibly others of the staff will be resident in Austin, where certain of the courses will be offered. Students who are now in this program will continue. Reorganization of courses is in progress. The complete revised curriculum will be announced later. Those interested should address inquiries or communications to the School of Nursing, The University of Texas Medical Branch, Galveston.

Junior Courses

323. Social Hygiene.—Problems, principles, and methods; social problems of adolescents and adjustments to social living; approaches to sex education; control of venereal diseases. Prerequisite: Physiology 6 and six hours of nursing education or of sophomore education. Three lectures a week for one semester. (Not given in 1941-1942, 1942-1943, 1943-1944, or 1944-1945.)

324. Supervision in Schools of Nursing.—Organization and administration of supervision in hospitals and nursing schools; principles underlying effective supervision and teaching of student nurses. Prerequisite: Six hours of nursing education or of sophomore education. Three lectures a week for one semester. Miss Bariteau. (Formerly Education 309N.)

333. Principles and Methods of Teaching and Their Application to Nursing Education.—Prerequisite: Six hours of nursing education or of sophomore education. Three lectures a week for one semester. Miss Pope. (Formerly Education 302N; given as Nursing Education 333 for the first time in 1942-1943.)

340. Evaluation and Reconstruction of Nursing Procedures.—Scientific principles and methods for analyzing, comparing, and reconstructing nursing procedures. Prerequisite: Chemistry 5 or 801, Physiology 6, and six hours of nursing education. Three lectures a week for one semester. Miss Bariteau. (Given for the first time in 1944–1945.)

Senior Courses

360. Curriculum Construction in Nursing Education.—Consideration of principles and methods of curriculum-making and their application to curricula in nursing education. Prerequisite: Six hours of advanced nursing education. Three lectures a week for one semester. Miss Pope. (Given for the first time in the Summer Term, 1944.)

367. Teaching of the Nursing Arts.—For the graduate nurse who teaches and supervises the student nurse in the nursing arts; techniques underlying the principles of nursing procedures and standards of evaluation of nursing procedures; planned to follow and demonstrate the teaching of the nursing arts according to the *Curriculum Guide*. Prerequisite: Education 311, Psychology 310, Nursing Education 311 (or Education 4Nb) and 314 (or Education 305N), and six hours of junior courses in nursing education or education. Three lectures a week for one semester. Miss Bariteau. (Formerly Education 304P.)

367K. Field Work and Student Teaching in Nursing Arts.—For nurses who are preparing to teach nursing arts in the basic professional program. Prerequisite: Education 311, Psychology 310, Nursing Education 311 and 314, and six hours of junior courses in nursing education and education. Six hours of lecture and field work a week for one semester. Miss Bariteau, Miss Dunlap. (Given for the first time in the Summer Term, 1944.)

367T. Field Work and Student-Teaching: Supervision.—For nurses who are preparing to become head nurses and assistant clinical instructors. Prerequisite: Education 311, Psychology 310, Nursing Education 311 and 314, and six hours of junior courses in nursing education or education. Six hours of lecture and field work a week for one semester. Miss Bariteau, Miss Buckley. (Given for the first time in 1944–1945.)

372. Administration in Schools of Nursing.—Professional administration of hospital departments of nursing service; educational administration of hospital schools and other types of schools of nursing. Prerequisite: Education 311, Sociology 310, Nursing Education 311 (or Education 4Nb) and 314 (or Education 305N), and six hours of junior courses in nursing education or education. Three lectures a week for one semester. Miss Pope. (Formerly Education 308N; given as Nursing Education 372 for the first time in 1941–1942.)

COLLEGE OF ENGINEERING**DEPARTMENT OF AERONAUTICAL ENGINEERING²⁶⁵**

Milton John Thompson, Sc.D., M.S.E., *Professor of Aeronautical Engineering; Associate Director, Defense Research Laboratory.*²⁶⁶

Millard Vernon Barton, Ph.D., M.S. in C.E., *Professor of Aeronautical Engineering; Research Engineer, Defense Research Laboratory.*²⁶⁷

Warren Arthur Meyer, B.S. in M.E., *Instructor in Aeronautical Engineering; Research Engineer, Defense Research Laboratory.*²⁶⁸

Venton Levy Doughtie, M.S. in M.E., *Professor of Mechanical Engineering.*

Byron Elliott Short, Ph.D., M.M.E., *Professor of Mechanical Engineering; Research Engineer, Defense Research Laboratory.*²⁶⁹

Dana Young, Ph.D., M.S. in C.E., *Professor of Civil Engineering; Research Engineer, Defense Research Laboratory.*²⁷⁰

Harry Llewellyn Kent, Jr., M.S. in M.E., *Associate Professor of Mechanical Engineering.*

Facilities for Graduate Study

Graduate work in aeronautical engineering is based largely on specialized studies in the fields of aerodynamics, aircraft structures, and propulsion and includes both the analytical and experimental phases.

A wind tunnel for aerodynamics investigation in the subsonic speed range is available, having a test section approximately 3 x 2 feet in size. Special test jigs and strain gage equipment are provided for experimental research in aircraft structures. Studies in the field of aircraft propulsion are given jointly with the Department of Mechanical Engineering, the latter having dynamometers and other equipment necessary for internal combustion engine research.

²⁶⁵Established as a separate department September 15, 1942.

²⁶⁶Appointment as *Professor of Aeronautics, Department of Mechanical Engineering*, for 1941-1942; appointment changed to *Professor of Aeronautical Engineering*, effective September 15, 1942. Absent on leave from February 15, 1945, through June 30, 1945, and for the Fall Term of 1945-1946. Appointment as *Associate Director, Defense Research Laboratory*, effective November 1, 1945.

²⁶⁷Appointment effective October 1, 1942; appointment as *Research Engineer* effective September 1, 1945.

²⁶⁸Appointment effective September 1, 1943; appointment as *Research Engineer* for the Fall Term of 1945-1946.

²⁶⁹Appointment as *Research Engineer* effective September 1, 1945.

²⁷⁰Appointment effective February 1, 1942; appointment as *Research Engineer* effective September 1, 1945.

An extensive collection of aeronautical literature is provided in the Engineering library, while related work in mathematics, physics and chemistry is fully covered in other University libraries.

The staff of the department is closely associated with the work of the Defense Research Laboratory, which is presently engaged on an extensive research and development contract for the Navy Bureau of Ordnance. This program includes studies in the fields of supersonic aerodynamics and jet propulsion with unusual facilities for both analytical and experimental work. Opportunities are available for a limited number of advanced graduate students in aeronautical engineering to participate in this activity.

Junior Courses

320. *Elementary Aerodynamics*.—Introduction to the study of mechanical flight and the aerodynamics of the airplane. Characteristics of airfoils, theories of lift and induced drag, effects of flaps, slots, and other wing attachments, nature of parasite drag, scale and compressibility effects. Equilibrium conditions in flight; elements of performance analysis. Prerequisite: Aeronautical Engineering 124, Applied Mathematics 325, and Mechanical Engineering 357. Three lectures a week for one semester. Mr. Thompson, Mr. Meyer.

321. *Elementary Aircraft Structures*.—Aircraft design requirements. Aircraft loads. Load transmission in the aircraft structure. Review of statics with calculations of reactions, shear, bending, and torsion of simple structures. Critical study of typical airplane structures. Deflections of simple and restrained beams. Continuous beams. Analysis of statically indeterminate frames and trusses. Prerequisite: Aeronautical Engineering 124; Civil Engineering 224b and 333, the former of which may be taken in parallel. Three lectures a week for one semester. Mr. Barton.

322. *Aircraft Layout and Detail Design*.—Applications of descriptive geometry to aircraft layout problems. Standard aircraft parts, tolerances and limits, bend radii in sheet metal, design of fittings, connections, and other aircraft details. Industrial aircraft drafting techniques. Production design. Use of Army, Navy, and industrial standards and design handbooks. Prerequisite or parallel: Aeronautical Engineering 321 and 223 and Mechanical Engineering 368. Nine laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Meyer.

223. *Aircraft Materials and Fabrication Processes*.—The materials of aircraft construction and their characteristics as related to fabrication, fabrication methods, prevention of corrosion. Particular emphasis is given to the nonferrous materials such as the aluminum and magnesium alloys, plywood, plastics, and fabrics. Laboratory work covers the methods of fabricating and assembling sheet metal parts. The techniques of electric arc, gas, and spot welding are studied from the point of view of the design engineer. Prerequisite: Mechanical Engineering 311 and Aeronautical Engineering 322,

the latter of which may be taken in parallel. Six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Meyer. (Formerly a senior course, Aeronautical Engineering 264; given as 223 for the first time in 1944-1945.)

124. Elements of Aircraft Construction.—Types, construction, and functions of aircraft, including lighter-than-air craft, airplanes, rotary wing aircraft, and pilotless aircraft. Prerequisite: Civil Engineering 315 and junior standing. One hour of lecture or recitation a week for one semester. Mr. Thompson. (To be offered for the first time in 1946-1947.)

Senior and Graduate Courses

360. Airplane Performance and Stability.—Detailed study of airplane performance calculations. Analysis of power required and available; selection of propellers. Determination of maximum and cruising speeds, rate of climb, range, endurance, and take-off performance. An introduction to the study of airplane stability and control, with special emphasis on design considerations. Prerequisite: Aeronautical Engineering 320. Three lectures a week for one semester. Mr. Thompson, Mr. Meyer.

361. Advanced Aircraft Structures.—Continuation of Aeronautical Engineering 321. Analysis of curved frames, bulkhead rings, and pressure cabins. Theory and design of columns and beam columns. Buckling of flat and curved sheet in compression. Application of theory to the analysis of aircraft structural components. Prerequisite: Aeronautical Engineering 321. Three lectures a week for one semester. Mr. Barton.

362. Aircraft Propulsive Systems.—Aeronautical Engineering 362 and Mechanical Engineering 362L may not both be counted. Theory, design, and selection of aircraft propulsive systems, including the engine-propeller combination, turbine-propeller drives, and various types of jet propulsion. Applications to both piloted and pilotless aircraft are considered. Prerequisite: Aeronautical Engineering 320 and Mechanical Engineering 368. Three lectures a week for one semester. Mr. Thompson, Mr. Meyer.

263a. Experimental Aerodynamics and Structures (Experimental Aerodynamics).—Principles of wind tunnel construction, operation, and use in airplane design. Measurement of airspeed, aerodynamic forces, and moments. Scale, turbulence, compressibility, and jet boundary corrections. Measurement of pressure distribution. Prerequisite or parallel: Aeronautical Engineering 360 (or 260). Three laboratory hours a week for one semester. Laboratory fee, \$1. Mr. Thompson, Mr. Meyer.

263b. Experimental Aerodynamics and Structures (Experimental Aircraft Structures).—Static and dynamics tests of aircraft structural elements. Proof tests of wings, control surfaces, and control systems. Prerequisite or parallel: Aeronautical Engineering 361. Three laboratory hours a week for one semester. Laboratory fee, \$1. Mr. Barton.

[264. *Aircraft Materials and Fabrication Processes.*—Materials used in aircraft construction, their characteristics as related to fabrication, various fabrication methods now employed, and methods used for prevention of corrosion. Prerequisite: Mechanical Engineering 311 and 361K and Aeronautical Engineering 322, the last two of which may be taken in parallel. (Given after 1943-1944 as a junior course, Aeronautical Engineering 223.)]

365. *Aircraft Stress Analysis.*—Continuation of Aeronautical Engineering 361. Strength of stiffened sheet metal panels. Bending and torsion analysis of monocoque and semi-monocoque structures. Tension field beams. Combined loading. Fitting analysis. Strength requirements and stress analysis procedures of the Army, Navy, and Civil Aeronautics Administration. Prerequisite: Aeronautical Engineering 361. Three lectures a week for one semester. Mr. Barton.

266. *Aircraft Engine Laboratory.*—Testing of aircraft propulsive systems. Use of dynamometers and propeller-type test clubs. Measurement of fuel consumption, testing of controllable pitch propellers and their governing systems. Prerequisite: Mechanical Engineering 240, Aeronautical Engineering 360 (or 260), and Mechanical Engineering 388, the last of which may be taken in parallel. Six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Kent.

367. *Airplane Design.*—Design procedures for laying out an airplane to meet certain performance specifications. Analysis of stability and control characteristics, stress analysis of primary structures such as wing, fuselage, and landing gear under various operating conditions. Selection of propulsive systems. Design of control mechanisms. Selection of materials and fabricating procedures. Prerequisite: Aeronautical Engineering 322, 223 (or 264), 360 (or 260) and 365 (or 265), the last two of which may be taken in parallel. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Thompson, Mr. Barton, Mr. Meyer.

368. *Aircraft Engine Design.*—Calculations of the principal dimensions of a selected type and capacity of airplane engine. Determination of gas pressures, inertia forces, and resultant bearing loads. Layout of accessories and design of complete engine. Prerequisite: Aeronautical Engineering 266 and Mechanical Engineering 388, the former of which may be taken in parallel. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Doughtie.

369. *Aircraft Internal Components.*—The internal parts and equipment of the airplane, including the control system, hydraulic system, heating and ventilating system, electrical system, instruments, landing gear and de-icing equipment, with particular emphasis on the installation of these components. Power plant installation design. Prerequisite: Aeronautical Engineering 320, 321, and 322. Two lecture and three laboratory hours a week for one semester. Laboratory fee, \$2.

[70. *Aerodynamics*.—Aeronautical Engineering 70 and Mechanical Engineering 70 may not both be counted. Principles of mechanical flight, fundamentals of aerodynamics, airplanes, and their component parts. Lift and drag of airfoils, profile, and induced drag. Airplane performance, stability, and control. Prerequisite: Mechanical Engineering 257 and Applied Mathematics 325. (Not given after 1942-1943.)]

371. *Applied Airfoil Theory*.—Fundamentals of hydrodynamics, with particular reference to two-dimensional flow problems in aerodynamics. Application of complex variable theory and conformal transformations to the geometry of airfoil sections. Dynamics of airfoils, development of the circulation theory. Theory of thin airfoils. Induced drag theory for finite span wings. Prerequisite: Applied Mathematics 326 and Aeronautical Engineering 320. Three lecture hours a week for one semester. Mr. Thompson.

372. *Aircraft Instruments and Aviation*.—Aeronautical Engineering 372 and Mechanical Engineering 372K may not both be counted. Various types of aircraft instruments, their construction, and use. Theory of meteorology, aviation, blind flying, and related topics of aircraft operation. Prerequisite or parallel: Aeronautical Engineering 360 (or 260). Three lectures a week for one semester.

373. *Aircraft Lofting and Template Layout*.—The development of airplane wing, fuselage, and bulkhead contours, and other curved parts by descriptive geometry and analytical methods. Intersection of component parts. Development of various kinds of templates. Reproduction of loft lines and templates. Prerequisite: Aeronautical Engineering 320, 321 and 322. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2.

374. *Advanced Airplane Performance*.—A critical study of the various graphical and analytical methods developed for the study of airplane performance and climb. Detailed investigations of range, endurance, take-off and landing run. Partial engine performance of multi-engine airplanes. Effect of changes in design parameters. Prerequisite: Aeronautical Engineering 360 (or 260). Two lecture and three laboratory hours a week for one semester. Mr. Thompson.

375. *Aircraft Flutter Theory*.—The fundamental principles of dynamics applied to aircraft. Theory of static and dynamic balance of wings and control surfaces. Elementary theory of flutter, including aerodynamic considerations. Prerequisite: Applied Mathematics 326 and Aeronautical Engineering 320 and 321. Three lectures a week for one semester. Mr. Barton.

376. *Airfoil Load Distribution*.—Thin airfoil theory, with particular reference to chordwise load distribution. Correlation with experimental data. Effects of trailing edge flaps. Finite span airfoil theory, induced drag, and spanwise lift distribution. Application of theories to practical problems of wing and tail surface design. Prerequisite: Aeronautical Engineering 371. Three lecture hours a week for one semester. Mr. Thompson.

378. *Advanced Aircraft Stress Analysis.*—Fundamental principles of elasticity and stability applied to advanced aircraft stress analysis problems. Torsion, bending-torsional buckling, shear lag, cut-outs, form factors, structural indexes. Study of current technical literature in this field. Prerequisite: Applied Mathematics 326 and Aeronautical Engineering 265. Three lecture hours a week for one semester. Mr. Barton.

379. *Rotary Wing Aircraft.*—Theory, design, and performance of rotary wing aircraft, including helicopters, autogiros, and other types. Prerequisite: Aeronautical Engineering 320 and 321. Three lectures a week for one semester. (To be offered for the first time in 1946-1947.)

[80. *Airplane Structures.*—Aeronautical Engineering 80 and Mechanical Engineering 80K may not both be counted. Aircraft structural design and analysis. Stresses and deflections in simple, continuous, and restrained beams. Critical loads, torsion, analysis of trusses, design of ties and columns, joints, indeterminate structures. Prerequisite: Six hours of senior mechanical engineering, including Mechanical Engineering 465K; graduate standing or consent of instructor. (Not given after 1942-1943.)]

390. *Dynamic Stability and Control.*—A study of the static and dynamic stability of systems, with applications to the airplane, servo-mechanisms, etc. Development and solution of the equations of motion. Study of the control and response of dynamic systems. Prerequisite: Applied Mathematics 326; twelve hours of advanced engineering; graduate standing or consent of instructor. Three lectures or recitations a week for one semester. Mr. Barton, Mr. Young. (To be offered for the first time in 1946-1947.)

393. *Advanced Fluid Mechanics.*—Same as Mechanical Engineering 393. Hydrodynamics, viscous and compressible fluids, lubrication, laminar and turbulent flow. Shock waves, resistance at subsonic, transonic, and supersonic speeds, relation to velocity of sound. Dynamic similarity and dimensional analysis. Prerequisite: Applied Mathematics 326; Mechanical Engineering 257 and 258, or 357, or Civil Engineering 354, or the equivalent; twelve hours of advanced engineering; graduate standing or consent of instructor. Three lectures or recitations a week for one semester. Mr. Thompson, Mr. Short. (To be offered for the first time in 1946-1947.)

98. *Thesis Course for the Master's Degree.*—This course will vary in credit according to the work performed, its value being indicated by the course numbers 298, 398, 98, etc. Prerequisite: Consent of the Dean and of the Chairman of the Department. Mr. Thompson, Mr. Barton.

Courses in Meteorology

370M. *Synoptic Meteorology.*—An introduction to the use of air mass and frontal analysis in the interpretation of weather phenomena. Problems of radiation. Introduction to the use of thermodynamic diagrams. Air mass classification and weather. Weather observations. Prerequisite: Applied

Mathematics 13, Mechanical Engineering 326, and 328 or 420 or the equivalent. Three lectures a week for one semester. (To be offered for the first time in 1946-1947.)

371M. Synoptic Meteorology.—The structure and formation of frontal systems. Circulation of the atmosphere. Thermodynamics of fog, cloud formation, and thunderstorms. Air mass and frontal analysis in forecasting. Laboratory work in plotting and analyzing weather maps. Prerequisite: Aeronautical Engineering 370M. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. (To be offered for the first time in 1946-1947.)

372M. Dynamic Meteorology.—An introduction to the thermodynamics of the atmosphere. Stability. Laws of radiation. Atmospheric turbulence and mass exchange. Prerequisite: Applied Mathematics 13, Mechanical Engineering 326, and 328 or 420 or the equivalent. Three lectures a week for one semester. (To be offered for the first time in 1946-1947.)

373M. Dynamic Meteorology.—Kinematics of the pressure field. Surfaces of discontinuity. Equations of motion in the atmosphere. Simple atmospheric motions. Air mass, fronts, cyclones, and anticyclones. Prerequisite: Aeronautical Engineering 372M. Three lectures a week for one semester. (To be offered for the first time in 1946-1947.)

DEPARTMENT OF ARCHITECTURE

Goldwin Goldsmith, Ph.B., F.A.I.A., *Professor of Architecture*.²⁷¹

Walter Thomas Rolfe, M.Arch., Architect, *Professor of Architecture; Veterans Coördinator, University Veterans Advisory Service*.²⁷²

Hugo Leipziger-Pearce, *Instructor in Architecture; Coördinator of Engineering Extension and Community Planning, Division of Extension*.²⁷³

Samuel Edward Gideon, *Professor of Architectural Design and Architectural History*.²⁷⁴

Raymond Everett, B.A., M.S. in Arch., *Professor of Freehand Drawing and Painting*.

²⁷¹Modified service.

²⁷²Appointment as *Veterans Coördinator* effective September 1, 1944; resignation as *Veterans Coördinator* effective October 31, 1945.

²⁷³Appointment also as *Special Instructor in Drawing* for the Winter and Spring Semesters of 1943-1944 and as *Special Lecturer in Housing and Community Planning, Division of Extension*, for 1944-1945; appointment as *Coördinator* effective September 1, 1945.

²⁷⁴Died August 13, 1945.

Werner William Dornberger, B.S. in Arch., M.S. in Arch.E., *Associate Professor of Architecture; Assistant Supervising Architect.*²⁷⁵

Donald Philip Stevens, M.S. in Arch., *Associate Professor of Architecture; Special Instructor in Civil Engineering.*²⁷⁶

Hugh Lyon McMath, M.S. in Arch., M.S., *Associate Professor of Architecture.*²⁷⁷

Joseph Robert Buffler, M.Arch., *Assistant Professor of Architecture.*

Walter C. Harris, B.Arch., *Assistant Professor of Architecture.*²⁷⁸

Phil Moss Ferguson, M.S. in C.E., *Professor of Civil Engineering.*

Facilities for Graduate Study

The University has splendid library and laboratory facilities which are available for advanced study and research. The Architecture Library, a branch of the Main Library, consists of over 2,000 volumes and 15,000 folio plates and photographs containing excellent material for historical research and special design study. The García Library, also a branch of the Main Library, offers exceptional opportunity for the study of Mexican and Spanish architecture. The technical library presents opportunity for specialized research.

Degree Requirements

General prerequisites and requirements.—For the Master of Architecture degree see page 43. For the Master of Science in Engineering degree see pages 44 to 46.

Specific prerequisites and requirements.—It is suggested that those intending to apply for the degree of Master of Architecture select Architecture 87 and 98, six other semester hours of approved advanced courses in architecture, six semester hours of advanced courses in one of the social sciences, and six other elective semester hours of approved advanced courses. Those intending to apply for the degree of Master of Science in Architectural Engineering may select Architecture 83 and 98, six other semester hours of advanced courses in architecture or six semester hours of advanced courses in civil or mechanical engineering, six semester hours of advanced courses in one of the social sciences, and six other elective semester hours of approved advanced courses.

²⁷⁵Absent on leave from September 1, 1944, to March 1, 1945; appointment changed from *Assistant Professor of Architecture; Assistant Supervising Architect* to *Associate Professor of Architecture; Architectural Engineer, Office of the Supervising Architect*, effective September 1, 1945.

²⁷⁶Appointment also as *Special Instructor in Civil Engineering* for 1943-1944 and for the Fall Term and Winter Semester of 1944-1945. Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

²⁷⁷Absent on leave from September 15, 1942, to January 1, 1946, military service; appointment changed from *Assistant Professor* to *Associate Professor*, effective January 1, 1946.

²⁷⁸Absent on leave from September 15, 1942, to September 11, 1945; military service.

Junior Courses

220. *Plastic Study of Architecture*.—Creative design in plastic materials as applied to architecture. Prerequisite: Architecture 414L and junior standing. Six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Everett.

23. *Interiors and Furniture*.—Architecture 23 and 429 may not both be counted. History of interiors and history and design of furniture. Prerequisite: Junior standing and consent of instructor. Two lectures and three hours of design a week for two semesters. Laboratory fee, \$4. Mr. Stevens.

424. *Working Drawings*.—Working drawings of buildings and building details. Prerequisite: Architecture 415La and 10 or 10E. Six hours of lectures and supervised work a week for two semesters. Laboratory fee, \$4. Mr. Dornberger, Mr. Harris.

525. *Architectural Design*.—Architectural problems. Prerequisite: Architecture 10, with an average grade of at least *C*, Architecture 205K or 212L, and credit or registration for 414Lb, 424, and 444. Fifteen hours of lectures and supervised work a week for one semester. Laboratory fee, \$4. Mr. Buffler.

526. *Architectural Design*.—Prerequisite: Architecture 525, with a grade of at least *C*, and credit or registration for 424 and 444. Fifteen hours of lectures and criticism a week for one semester. Laboratory fee, \$4. Mr. Buffler.

228, 328. *Domestic Architecture*.—Problems and principles of residential design. Prerequisite: Junior standing in any college or school of the University and consent of the instructor. Two lectures a week for one semester; one additional hour for 328. Mr. Goldsmith.

430. *Life Drawing and Color*.—First semester: Drawing and composition from the model in the creation of architectural decoration. Second semester: Advanced studies from still life, and outdoor sketching in water color. Prerequisite: Architecture 414L. Six laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Everett.

[35. *Building Construction*.—Theory of design of building structures; design of structural parts of buildings in timber, steel, concrete, and masonry; estimating building costs. Prerequisite: Architecture 415L and Civil Engineering 413. Three lectures a week for two semesters. Mr. Dornberger. (After 1944-1945 to be given as two four-hour courses, one a junior course, 435, and one a senior course, 469.)]

435. *Building Construction*.—Theory of design of building structures; design of structural parts of buildings in timber, steel, and masonry. Prerequisite: Architecture 415L and Civil Engineering 413. Two lectures a week for two semesters. Mr. Dornberger. (Formerly a part of Architecture 35; to be offered as 435 for the first time in 1945-1946.)

536. *Architectural Design*.—Architectural problems for architects; planning problems for planners. Prerequisite: Architecture 424; 526, with a grade of at least *C*; and 444; in addition, for architects, credit or registration for 446. Fifteen hours of lecture and criticism a week for one semester. Laboratory fee, \$4. Mr. McMath. (Given as 36 in 1942-1943 and 1943-1944.)

537. *Architectural Design*.—Continuation of Architecture 536. Prerequisite: Architecture 536, with a grade of at least *C*. Fifteen hours of lecture and criticism a week for one semester. Laboratory fee, \$4. Mr. McMath. (Given as 37 in 1942-1943 and 1943-1944.)

240. *Theory of Architecture*.—Principles of architectural composition, supplementing and related to courses in design. Prerequisite or parallel: Architecture 525. Two lectures a week for one semester. Mr. Buffler.

242. *Landscape Architecture*.—Fundamentals of landscape and civic design. Prerequisite: Junior standing. Two lectures a week for one semester. Mr. Buffler.

444. *History of Architecture*.—First semester: Renaissance architecture. Second semester: Nineteenth- and twentieth-century architecture. Prerequisite: Architecture 411L and junior standing. Two lectures a week for two semesters. Mr. Leipziger-Pearce.

245. *Building Sanitation*.—Principles and practice of plumbing, sewage disposal, gas piping, and water piping; design of simple plumbing and piping systems. Prerequisite: Architecture 415L and credit or registration for 424; Physics 801. Two lectures a week for one semester. Mr. Dornberger.

245E. *Building Sanitation*.—For architectural engineering students. Principles and practice of plumbing, sewage disposal, gas piping, and water piping; designs and layouts of plumbing and piping systems. Prerequisite: Architecture 415L and credit or registration for 424; Physics 812. One lecture and three laboratory hours a week for one semester. Mr. Dornberger.

446. *Working Drawings*.—Advanced working drawings of buildings and structural details. Prerequisite: Architecture 415L and 424. Six hours of lecture and supervised work a week for two semesters. Laboratory fee, \$4. Mr. Dornberger, Mr. Harris.

247, 347. *Elements of Naval Architecture and Ship Production*.—Types of ships, nomenclature, methods and materials of construction, shipyard practice, form calculations, classification rules, stability calculations, launching procedure. Introductory course for engineering students who plan to do further work in ship construction, repair, or conversion. Prerequisite: Junior standing in architectural, civil, or mechanical engineering. For 247, two lectures a week for one semester; for 347, two lectures and three hours of supervised drawing for one semester. Mr. Dornberger.

[350. *The Early Architecture of Texas and the Southwest.*—The early architecture and culture of southwestern colonization centers, principally in Texas, will be studied by means of illustrated lectures, research, themes, and occasional visits. Students who are majoring in American history may count one semester hour of this course as one advanced semester hour in history. Prerequisite: Junior standing and consent of instructor. Three lectures a week for one semester. Mr. Gideon. (Not given after 1944-1945.)]

258. *Building Contracts.*—Quantity surveying, cost estimates, construction procedure and methods, construction plant layout and design, elements of cost accounting. For engineering students who plan to engage in building contracting. Prerequisite: Junior standing in architectural engineering or consent of instructor. Six hours of lecture and supervised work a week for one semester. Mr. Dornberger.

59a.i., 59b.i. *Principles of Housing and City Planning.*—Designed primarily for students in sociology, government, economics, and architecture. Modern housing and city planning, their historical background, legal aspects, and elements of the physical and social development of the city, particularly with reference to Texas municipalities. May count as sociology if preceded by Sociology 310. Prerequisite: Junior standing. Three lectures a week for two semesters. Mr. Leipziger-Pearce.

Senior and Graduate Courses

460. *Building Construction.*—Design and drawing of structural parts of buildings in steel, timber, and concrete, including theory of steel and timber construction. Prerequisite: Civil Engineering 229, 435, and registration in Civil Engineering 461. Six hours of lecture and supervised work a week for two semesters. Laboratory fee, \$4. Mr. Dornberger, Mr. Ferguson.

262, 462. *Specifications; Professional Practice.*—Principles of specification writing; office management and professional ethics. Prerequisite: Architecture 446 for architects and 424 for planners; credit or registration for 460 or 469. For 262, one lecture a week for two semesters; for 462, two lectures a week for two semesters. Mr. Goldsmith. (Architecture 462 was not given in 1942-1943 or 1943-1944.)

563. *Architectural Design.*—Advanced architectural problems for architects; planning problems for planners. Prerequisite: Architecture 537, with an average grade of at least C. Fifteen hours of lecture and criticism a week for one semester. Laboratory fee, \$4. Mr. McMath. (Given as 63 in 1942-1943 and 1943-1944.)

564. *Architectural Design.*—Continuation of Architecture 563. Includes the solution of a problem of the student's choice, supplemented by working drawings, details, and specifications. Prerequisite: Architecture 563 with a grade of at least C, and credit or registration for 444. Fifteen hours of lecture and criticism a week for one semester. Laboratory fee, \$4. Mr. McMath. (Given as 64 in 1942-1943 and 1943-1944.)

469. *Building Construction.*—Continuation of Architecture 435. Design of concrete structures and foundations; estimating building costs. Prerequisite: Architecture 435. Two lectures a week for two semesters. Mr. Dornberger. (Formerly a part of Architecture 35; to be offered as 469 for the first time in 1945-1946.)

370. *Housing Seminar.*—Evaluation of housing problems from social, technical, economic, and administrative points of view. Critical attention to solutions in Europe and America. Prerequisite: Architecture 59a or 59b. Three lectures a week for one semester. Mr. Leipziger-Pearce. (To be offered for the first time in 1946-1947.)

380, 381. *Problems of Housing and Community Planning.*—Integration and coördination of advanced knowledge and experimentation in the technical, social, and physical sciences with planning for housing and for civic and regional environment of modern communities. Prerequisite: Bachelor's degree in sociology, government, economics, law, education, architecture, civil engineering, or related fields. May be counted as sociology by students who have graduate standing in sociology. For each course, three lectures a week for one semester. Mr. Leipziger-Pearce.

83. *Advanced Building Construction.*—Advanced theory of structures. Prerequisite: Architecture 469 or 460 or 760, and Civil Engineering 360; graduate standing or consent of instructor. Six three-hour laboratory periods a week for one semester. Mr. Goldsmith, Mr. Ferguson.

84. *Advanced Building Construction.*—Advanced problems in building construction. Prerequisite: Architecture 83; graduate standing or consent of instructor. Six three-hour laboratory periods a week for one semester. Mr. Goldsmith, Mr. Ferguson.

87. *Advanced Design.*—Advanced problems in architectural or planning design. Prerequisite: Architecture 469 and 564, with an average grade of at least C in each; graduate standing or consent of instructor. Six three-hour laboratory periods a week for one semester. Laboratory fee, \$4. Mr. McMath.

88. *Advanced Design.*—Thesis in design and construction. An advanced problem in design, supplemented by working drawings, structural details, and specifications. Prerequisite: Architecture 87; graduate standing or consent of instructor. Six three-hour laboratory periods a week for one semester. Laboratory fee, \$4. Mr. McMath.

98. *Thesis Course for the Master's Degree.*—This course will vary in credit according to the amount of work performed, its value being indicated by the course numbers 98, 898, etc. Prerequisite: Graduate standing in architecture. Mr. Goldsmith, Mr. McMath, Mr. Ferguson.

DEPARTMENT OF CERAMIC ENGINEERING²⁷⁹

Forrest Kizer Pence, B.A., Cer.E., *Professor of Ceramic Engineering; Director of Research Laboratory in Ceramics.*²⁸⁰

Eugene Darrel Lynch, M.S. in Cer.E., *Research Assistant, Research Laboratory in Ceramics.*²⁸¹

Junior Courses

420. *Ceramic Bodies.*—Development, control, and properties of ceramic bodies; laboratory production of ceramic ware. Prerequisite: Ceramic Engineering 210 and Chemistry 812. Two lectures and six laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Pence. (To be offered for the first time in 1945–1946.)

421. *Glazes and Colors.*—The technical considerations involved in the production of ceramic glazes and colors; decorative processes as applied to ceramic products. Prerequisite: Ceramic Engineering 420. Two lectures and six laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Pence. (To be offered for the first time in 1945–1946.)

325. *Drying.*—Theory and engineering of drying ceramic products. Prerequisite: Ceramic Engineering 420. Three lectures a week for one semester. Mr. Lynch. (To be offered for the first time in 1945–1946.)

Senior Courses

460. *Plant and Equipment Design.*—Design, operation, and maintenance of ceramic plants, equipment, plant layout, and production control. Prerequisite: Ceramic Engineering 420. Two lectures and six laboratory hours a week for one semester. Laboratory fee, \$4. (To be offered for the first time in 1945–1946.)

365. *Glass Technology.*—The chemistry and physics of the silicate glasses and their preparation; plant visitations. Prerequisite: Ceramic Engineering 421. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Pence. (To be offered when there is a sufficient demand for the course.)

366. *Porcelain Enamels.*—Composition, application, properties, and testing. Prerequisite: Ceramic Engineering 421. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Pence. (To be offered when there is a sufficient demand for the course.)

²⁷⁹Established September 1, 1945.

²⁸⁰Appointment changed from *Associate Director and Research Technologist, Ceramics Project, Bureau of Industrial Chemistry to Professor of Ceramic Engineering; Director, Research Laboratory in Ceramics*, effective September 1, 1945.

²⁸¹Appointment effective November 19, 1945.

370. Refractories and Firing.—Composition and properties of refractory materials, pyrometry, kilns, and theory of firing. Prerequisite: Ceramic Engineering 420. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. (To be offered for the first time in 1945-1946.)

471. Silicate Mineralogy.—Thermal and chemical reactions of silicate minerals. Prerequisite: Ceramic Engineering 420 and Chemistry 461. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$4. (To be offered for the first time in 1945-1946.)

372. Fuller's Earth.—Chemical and physical properties; method of testing. Prerequisite: Ceramic Engineering 420 and Chemistry 368. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Pence. (To be offered when there is a sufficient demand for the course.)

279, 379, 479. Investigations.—Prerequisite: Ceramic Engineering 421. Laboratory fee, \$2. Mr. Pence. (To be offered for the first time in 1945-1946.)

DEPARTMENT OF CHEMICAL ENGINEERING

Eugene Paul Schoch, Ph.D., C.E., *Professor of Chemical Engineering; Acting Director, Bureau of Industrial Chemistry, and Technical Advisor, Acetylene Project.*²⁸²

Kenneth Albert Kobe, Ph.D., M.S. in Ch.E., *Professor of Chemical Engineering.*²⁸³

John Griswold, Sc.D. in Ch.E., *Professor of Chemical Engineering; Supervisor, Rubber Reserve Research Project.*²⁸⁴

William Aaron Cunningham, Ph.D., M.S. in Ch.E., *Professor of Chemical Engineering.*²⁸⁵

William Meese Newton, Ph.D., *Associate Professor of Chemical Engineering.*²⁸⁶

Forrest Kizer Pence, B.A., Cer.E., *Associate Director and Research Technologist, Ceramics Project, Bureau of Industrial Chemistry.*²⁸⁷

²⁸²Appointment also as *Director of the Bureau of Industrial Chemistry* for 1941-1942. Modified service effective September 15, 1942. Appointment as *Technical Advisor to the Board of Regents on Development of Schoch Processes, Bureau of Industrial Chemistry*, for 1943-1944 and 1944-1945. Appointment as *Acting Director, Bureau of Industrial Chemistry, and Technical Advisor, Acetylene Project*, for 1945-1946.

²⁸³Absent on leave from September 15, 1942, to March 4, 1944; military service.

²⁸⁴Appointment as *Supervisor, Rubber Reserve Research Project*, effective September 1, 1945.

²⁸⁵Appointment changed from *Associate Professor* to *Professor*, effective September 1, 1943.

²⁸⁶Appointment effective February 1, 1944.

²⁸⁷Appointment changed to *Professor of Ceramic Engineering; Director, Research Laboratory in Ceramics*, effective September 1, 1945, when the Department of Ceramic Engineering was established.

Facilities for Graduate Study

This department has a separate building which also houses the Bureau of Industrial Chemistry. A number of the laboratories are devoted to and equipped for research in the fields listed below. Complete library facilities are available.

Degree Requirements

General prerequisites and requirements.—For the Master of Science in Engineering degree see pages 44 to 46. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—For the degree of Master of Science in Chemical Engineering, a candidate must present as prerequisite a bachelor's degree in chemical engineering from an accredited curriculum or course credits adequate to satisfy the A.I.Ch.E.—E.C.P.D. recommended curriculum in lieu of this degree. The Department will determine what courses must be taken to absolve deficiencies of undergraduate training by examining the student's record and counseling him.

For an advanced degree in chemical engineering, a program for the student will be arranged by the graduate staff of the Department. A degree program includes formal graduate courses, study, and research. Special work and research may be on a chemical engineering unit operation or process, or on a technical phase of a field such as petroleum refining, water treatment, fuels and combustion, inorganic chemical technology, organic chemical technology, cotton fiber technology, utilization of natural gas.

Junior Courses

345. Oil and Fuel Technology.—The properties of the important fuels, petroleum products, and gases as interpreted from the standard tests. Prerequisite: Chemistry 812, and Chemical Engineering 317 with a grade of at least *C*. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Griswold.

350. Chemical Engineering Materials.—Properties, uses and applications of engineering materials, such as water, ferrous and non-ferrous metals and alloys, cements, plastics, paints, etc. Prerequisite: Chemistry 801 or 801Q, and Physics 812. Three lectures a week for one semester. Mr. Cunningham. (To be offered for the first time in 1945-1946.)

353. Unit Operations I.—Units and dimensions, flow of fluids, flow of heat, crushing and grinding, mechanical separation operations; typical equipment and its operation. Prerequisite: Chemistry 460, and Chemical Engineering 317 with a grade of at least *C*. Three lectures a week for one semester. Mr. Cunningham. (Given for the first time in 1942-1943.)

Senior and Graduate Courses

362. Chemical Engineering Thermodynamics.—Applications of thermodynamics to chemical engineering processes. Prerequisite: Chemical Engineering 345 and Chemistry 460. Three lectures a week for one semester. Mr. Kobe. (Given for the first time in 1943-1944.)

63. Unit Operations II.—Study of fluid and heat flow, diffusion, absorption and stripping, vaporization and evaporation, distillation and rectification, extraction, hygrometry, humidification and dehumidification, drying; equipment design; economic balances. Prerequisite: Chemical Engineering 353 with a grade of at least *C*. Three lectures a week for two semesters. Mr. Kobe, Mr. Griswold.

64. Unit Operations Laboratory.—Laboratory study of unit operations equipment acquainting the student with the practice of chemical engineering; technical reports. Prerequisite or parallel: Chemical Engineering 63. Six laboratory hours and a written report a week for two semesters. Laboratory fee, \$4. Mr. Kobe, Mr. Griswold, Mr. Cunningham, Mr. Newton.

365. Water Treatment Engineering.—Water softening and purification for industrial and municipal uses; water conditioning; design of water treating plants; prevention of corrosion. Prerequisite: Chemical Engineering 353. Two lectures and one three-hour laboratory period a week for one semester. Laboratory fee, \$2. Mr. Cunningham.

67. Refinery Engineering.—Current methods for refining and treating petroleum and petroleum products. Fundamentals of design and operation with their application to complete units. Prerequisite or parallel: Chemical Engineering 63. Three lectures or the equivalent a week for two semesters. Mr. Newton.

373. Inorganic Chemical Technology.—Chemical engineering aspects of inorganic chemical industries; economics and design; process development. Prerequisite: Chemical Engineering 353. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Cunningham.

374. Cements.—Composition, properties, and manufacture of Portland and other cements, limes, and plasters. Prerequisite: Chemistry 461. Three lectures a week or equivalent in plant visitations and special assignments for one semester. Mr. Cunningham.

378. Organic Chemical Technology.—Unit processes in organic chemical industries; equipment, economics, and design; organic process development. Prerequisite: Chemical Engineering 353 and Chemistry 821. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Kobe.

279, 379, 479. Senior Problem.—Senior problem which may be elected by above-average students. Prerequisite or parallel: Chemical Engineering 63 and consent of instructor. Laboratory fee: For 279 or 379, \$2; for 479, \$4.

Credit given according to amount of work done. Mr. Kobe, Mr. Griswold, Mr. Cunningham, Mr. Newton. (Given for the first time in 1942-1943.)

Prerequisites applying to all graduate courses.—The general prerequisite to enrollment in a graduate course is graduate standing in chemical engineering. Students who do not hold the bachelor's degree in chemical engineering may be admitted to graduate courses for which their educational background and maturity are adequate; special prerequisites for such students are:

(a) Senior students in chemical engineering must be within twenty-seven hours of the bachelor's degree, must have completed Chemical Engineering 63, and must have better than average grades.

(b) Graduate students must have a bachelor's degree in a branch of science or engineering related to the course. Fields related to one or more of the graduate chemical engineering courses are: chemistry; civil, electrical, mechanical, and petroleum engineering.

To be admitted under these special prerequisites, all students must obtain the consent of the instructor.

[380. *Development of Texas Clays for Ceramic Engineering.*—Research for Texas clays and clay minerals suitable for ceramic engineering; their occurrence, properties, and ceramic uses. Prerequisite: Chemical Engineering 63, and graduate standing or consent of instructor; or, for geology students, Geology 337 and graduate standing in geology. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Pence. (Not to be given after 1944-1945.)]

80S. *Chemical Engineering Practice.*—Given only in the summer. Field work in industrial plants; testing their units in operation; drawing of flow sheets and making technical reports. May be repeated for credit. Prerequisite: Chemical Engineering 63 and consent of instructor. Laboratory fee, \$4. Mr. Griswold. (Not given since 1941; to be given when conditions permit.)

[481. *Development of Texas Clays for Decorated and White Ware.*—Calculation of suitable glazing mixtures; their physical and chemical compatibility with the decorated clay bodies; and development of proper methods of applying the decoration. Prerequisite: Chemical Engineering 380. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Pence. (Not to be given after 1944-1945.)]

[83a.i., 83b. *Introduction to Research on Wood and Textile Fibers.*—Physical and chemical properties of wood and textile fibers, and technology of paper and textile manufacturing—all studied with the view of developing new processes. Prerequisite: Graduate standing in chemical engineering, chemistry, or botany; consent of instructor. Three lectures a week for two semesters. (Not given after 1942-1943.)]

384. *Introductions to Research.*—Any number of sections may be taken for credit, and, with the consent of the instructor, any section may be repeated for credit. The section number for each professor will be given in the current Final Announcement of Courses. Laboratory fee, \$2. Mr. Kobe, Mr. Griswold, Mr. Cunningham, Mr. Newton.

85. Research.—Prerequisite or parallel: Chemical Engineering 63 and six hours of graduate chemical engineering or chemistry; graduate standing or consent of instructor. Credit in accordance with amount of work done. May be repeated for credit. The section number of each professor offering research will be given in the current Final Announcement of Courses. Laboratory fee, \$4. Mr. Schoch, Mr. Kobe, Mr. Griswold, Mr. Cunningham, Mr. Newton.

87a.i., 87b.i. Advanced Thermodynamics and Its Application to Chemical Plant Design.—Properties and relationships involved in chemical engineering processes, with special reference to gases under high pressures, phase behavior of mixtures and recycling operations, energy and chemical effects of electric discharge through gases for the manufacture of acetylene and other products. Prerequisite: Chemical Engineering 63; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Schoch.

388. Distillation Processes.—Advanced theory of distillation and its application to industrial processes. Prerequisite: Chemical Engineering 63; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Griswold. (Given for the first time in 1943-1944.)

389. Electrochemical Processes.—Industrial application of electrochemistry; electrolysis of solutions and fused salts; electric furnace applications; organic reactions. Prerequisite: Graduate standing in chemical or electrical engineering or chemistry; consent of instructor. Three lectures a week for one semester. Mr. Kobe. (Given for the first time in the Summer-Fall Semester of 1944.)

390. Process Rates.—The application of mathematical methods to problems in chemical engineering processes, particularly those of unsteady state conditions. Prerequisite: Graduate standing in chemical, mechanical, or petroleum engineering, or chemistry; consent of instructor. Three lectures a week for one semester. Mr. Kobe. (To be offered for the first time in the Summer-Fall Semester of 1945.)

98. Thesis Course for the Master's Degree.—Prerequisite: Graduate standing in chemical engineering and consent of instructor. Laboratory fee, \$4. Mr. Schoch, Mr. Kobe, Mr. Griswold, Mr. Cunningham, Mr. Newton.

99. Thesis Course for the Degree of Doctor of Philosophy.—Prerequisite: Admission to candidacy for the doctor's degree. Laboratory fee, \$4. Mr. Schoch, Mr. Kobe, Mr. Griswold.

DEPARTMENT OF CIVIL ENGINEERING

Edward Christian Henry Bantel, C.E., *Professor of Civil Engineering; Assistant Dean Emeritus of the College of Engineering.*²⁸⁸
Stanley Phister Finch, C.E., M.S., *Professor of Civil Engineering.*

²⁸⁸Modified service, effective September 1, 1944. Appointment as *Assistant Dean* changed to *Assistant Dean Emeritus*, effective September 1, 1944.

Dana Young, Ph.D., M.S. in C.E., *Professor of Civil Engineering; Research Engineer, Defense Research Laboratory.*²⁸⁹

Phil Moss Ferguson, M.S. in C.E., *Professor of Civil Engineering.*

Raymond Fillmore Dawson, M.S. in C.E., *Associate Professor of Civil Engineering; Associate Director of the Bureau of Engineering Research.*²⁹⁰

John Arnold Focht, M.S. in C.E., *Professor of Highway Engineering.*

Quintin Branson Graves, M.S., *Associate Professor of Civil Engineering.*²⁹¹

Richard King, M.S. in C.E., *Special Instructor in Civil Engineering.*²⁹²

Roscoe Guernsey, Jr., B.A., C.E., *Assistant Professor of Civil Engineering.*

Banks McLaurin, M.S. in C.E., *Professor of Civil Engineering.*

Leland Barclay, M.S. in C.E., *Assistant Professor of Civil Engineering.*

Jesse Neils Thompson, M.S. in C.E., *Associate Professor of Civil Engineering.*²⁹³

Eugene Arman Ripperger, B.S. in C.E., *Special Instructor in Civil Engineering.*²⁹²

Facilities for Graduate Study

Surveying equipment consists of a number of first class levels, transits, and plane tables suitable for ordinary work, and precise levels and theodolites suitable for first order geodetic surveying. Stereoscopes, mechanical triangulators, sketchmasters, and contour finders are available for work in photogrammetry.

Equipment is available for testing soils used in highway and airport subgrades, structural foundations, earthen dams, and embankments. Special equipment for graduate study and research includes eighteen consolidometers, four triaxial compression machines, unconfined compression devices, a direct shear machine, permeability attachments, and pore-water pressure devices.

The materials testing laboratory has impact, torsion, hardness, fatigue, and magnaflux machines; five universal testing machines and calibration equipment; also mechanical, electrical, and optical type strain gages. This equipment is suitable for physical testing and experimental stress analysis research.

A large concrete laboratory with temperature-controlled moist room and aggregate screening, drying, and testing equipment is suitable for research work in reinforced concrete structures and concrete mix designs.

²⁸⁹Appointment effective February 1, 1942; appointment as *Research Engineer* effective September 1, 1945.

²⁹⁰Appointment changed from *Assistant Director of the Bureau of Engineering Research* to *Associate Director*, effective September 1, 1944.

²⁹¹Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945; absent on leave for the Fall Term and Winter Semester of 1945-1946.

²⁹²Appointment effective March 1, 1946.

²⁹³Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

The highway materials laboratory has the standard apparatus for testing road materials, including stone, gravel, caliche, and bituminous paving materials; also for testing various types of stabilized soil mixtures.

The hydraulic laboratory is equipped with five types of flow measuring devices, means for studying pipeflow, and hydraulic machinery, including pumps driven by variable speed electric motors. Space is available to set up special experimental work.

The sanitary engineering laboratory is equipped to handle experimental work on water and sewage, including physical, chemical, and bacteriological control.

A mechanical vibrograph, electrical vibration meters, and related equipment are available for experimental work in vibrations and dynamics.

A complete photoelastic polariscope is on hand for research in two-dimensional stress problems. A Beggs deformeter is available for model studies of complex structures.

For the fundamental sciences the Main Library and libraries in mathematics, physics, geology, and chemistry are available for graduate engineering students. In addition to these, the College of Engineering has a complete library, including books, periodicals, and journals in the field of civil engineering.

Degree Requirements

General prerequisites and requirements.—For the Master of Science in Engineering degree see pages 44 to 46.

Specific prerequisites and requirements.—In extension of the undergraduate course, the major for the Master of Science in Civil Engineering degree may be chosen in structural, highway, soil mechanics, sanitary engineering, or in engineering mechanics. However, any combination of these, subject only to the general requirements of the master's degree in engineering, is permitted. Minors in botany, business administration, chemistry, economics, mathematics, physics, or engineering courses in related lines are recommended.

Junior Courses

220. Applied Mechanics: Dynamics.—Civil Engineering 220 and 318 may not both be counted. Principles of dynamics and application to engineering problems; motion of a particle, translation, rotation, plane motion, work and energy, impulse and momentum. Prerequisite: Civil Engineering 315 and Applied Mathematics 13. Two lectures a week for one semester. Mr. Young in charge.

221. Highway Engineering.—Location, design, construction, and maintenance of roads and highways; low cost and high type wearing surfaces. Prerequisite: Civil Engineering 10. Three lectures a week for one semester. Mr. Focht.

322. *Plane Surveying*.—Grade lines, earthwork, mass curves, transit tape surveys, stadia surveying, plane table, topographic maps, United States Public Land Surveys, hydrographic surveys. Prerequisite: Civil Engineering 10 and 219. One lecture and six hours of field work a week for one semester. Laboratory fee, \$2. Mr. Foehl, Mr. Barclay.

224a. *Surveying*.—The use of surveying instruments. Prerequisite: Applied Mathematics 204 and sophomore standing. Three hours of field work a week for one semester. Laboratory fee, \$1. Mr. Barclay in charge.

224b.i. *Testing Materials Laboratory*.—Prerequisite: Credit or registration for Civil Engineering 333. Three laboratory hours a week for one semester. Laboratory fee, \$1. Mr. Thompson in charge.

228. *Materials of Construction*.—Properties and tests of steel, cast iron, timber, and concrete, with introduction to their manufacture; also tests on simple structural members. Prerequisite or parallel: Civil Engineering 333. One lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Thompson.

229. *Theory of Simple Structures*.—For architectural engineering students. Prerequisite: Civil Engineering 333. Three lectures a week for two-thirds of the semester. Mr. Finch.

329. *Theory of Simple Structures*.—Reactions, shears, moments due to fixed loads; influence lines; maximum shears, moments, floor beam concentrations due to moving loads; dead and live load stresses in simple roof and bridge trusses. Prerequisite: Civil Engineering 333. Three lectures a week for one semester. Mr. Finch.

333. *Applied Mechanics: Strength of Materials*.—Civil Engineering 333 and 413 may not both be counted. Analysis of stress and strain; riveted and welded joints; flexure and deflection of beams, shafts, columns; physical properties of materials. Prerequisite: Civil Engineering 315 or 215, and Applied Mathematics 13. Three lectures a week for one semester. Mr. Young in charge.

435. *Structural Design and Theory*.—Design of structural members and connections, timber trestle, steel roof truss (with design drawings), and plate girder; also theory of columns, plate girders, unsymmetrical bending, etc. Prerequisite: Drawing 302 and Civil Engineering 333. Four lectures and eight hours of supervised work a week for one semester. Mr. Ferguson, Mr. Ripperger.

340. *Higher Surveying*.—Principles of field astronomy, observations for time and azimuth, base line measurements and triangulation. Prerequisite: Civil Engineering 322. Two lectures and three hours of field work a week for one semester. Laboratory fee, \$2. Mr. Barclay.

354. *Hydraulics*.—Physical properties of fluids, fluids at rest, energy and momentum equations, metering instruments, and flow in pipes and open channels. Prerequisite: Applied Mathematics 13 and Civil Engineering 315 or 215. Three lectures a week for one semester. Mr. McLaurin, Mr. Graves, Mr. Guernsey.

454. Hydraulics.—Physical properties of fluids, fluids at rest, energy and momentum equations, metering instruments, and flow in pipes and open channels. Prerequisite: Applied Mathematics 13 and Civil Engineering 315 or 215. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. McLaurin, Mr. Graves, Mr. Guernsey.

354Q. Hydraulics for Architectural Engineering Students.—Physical properties of fluids, fluids at rest, energy and momentum equations, metering instruments, and flow in pipes. Prerequisite: Applied Mathematics 13 and Civil Engineering 315 or 215. Three lectures and three laboratory hours a week for three-fourths of the semester. Laboratory fee, \$2. Mr. McLaurin, Mr. Graves, Mr. Guernsey.

255. Hydrology.—A general course including meteorology, precipitation, evaporation, transpiration, deep seepage, runoff, and stream flow. Prerequisite or parallel: Civil Engineering 354. Two lectures a week for one semester. Mr. Bantel.

Senior and Graduate Courses

360. Soil Mechanics and Foundations.—General treatment of those physical and mechanical properties of soil related to the construction of highways, foundations, embankments, and retaining walls. Consideration of various types of foundations, underpinning, settlement of structures, and the stability of slopes. Prerequisite or parallel: Civil Engineering 461. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Dawson.

461. Reinforced-Concrete Theory.—Simple slabs, beams, and girders, cantilever retaining walls; columns; footings; continuous slabs, beams, and frames, with analysis by moment distribution method. Prerequisite: Civil Engineering 333 and senior standing. Three lectures and three hours of supervised work a week for one semester. Mr. Ferguson.

262. Reinforced-Concrete and Steel Design.—First half: Design of typical parts of a reinforced-concrete building. Second half: Design of structural steel joints, splices, and connections to carry moment. Prerequisite: Civil Engineering 435 and 461. Two lectures and four hours of supervised work a week for one semester. Laboratory fee, \$2. Mr. Ferguson.

263. Introduction to Indeterminate Structures.—Deflection of trusses and beams, with simple applications of the theory of deflections to indeterminate structures. Prerequisite: Civil Engineering 329 and credit or registration for Civil Engineering 461. Two lectures a week for one semester. Mr. Finch.

264. Sanitary Design.—Practical design of sanitary structures. Prerequisite: Civil Engineering 354 and registration in 72. Two lectures a week for one semester. Mr. Graves.

267. Highway Engineering.—Highway surveys and preparation of plans. Prerequisite: Civil Engineering 221 and 340. Six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Focht.

268. *Aerial Surveying and Map Projection.*—Prerequisite: Civil Engineering 340. Two lectures a week for one semester. Mr. Barclay.

369K. *Advanced Strength of Materials.*—Theory of flexure, unsymmetrical bending, curved beams, indeterminate and continuous beams, shear center, combined stress, theories of failure, stress concentrations. Prerequisite: Civil Engineering 333 and senior standing. Three lectures a week for one semester. Mr. McLaurin. (Prior to 1944-1945 given as a graduate course, Civil Engineering 388.)

270. *Advanced Hydraulics.*—Special hydraulic problems such as flood runoff, retarding basins, outlet conduits and spillways, and channel improvement; or hydraulic problems of power development, dams, spillways, and power plants. Prerequisite: Civil Engineering 354 and senior standing. Two lectures a week for one semester. Mr. Graves.

271. *Advanced Materials of Construction.*—Manufacture, properties, and uses of steel alloys, aluminum, magnesium, timber, concrete, clay products, plastics, and paint. Prerequisite: Civil Engineering 228. Two lectures a week for one semester. Mr. Thompson.

72. *Public Water Supplies; Sewerage and Sewage Disposal.*—First semester: Sources, storage, treatment, and distribution of water. Second semester: A study of sewer systems, and of the treatment and disposal of sewage. Prerequisite: Civil Engineering 333 and 354; Chemistry 801. Two lectures and three laboratory hours a week the first semester; three lectures a week the second semester. Laboratory fee, \$2 for 72a. Mr. Bantel, Mr. Graves.

273. *Costs and Specifications.*—Present worth, unit costs, estimates, specifications, contracts. Prerequisite: Civil Engineering 221, 228, and 461. One lecture and three hours of supervised work a week for one semester. Mr. Focht.

374. *Vibration Problems.*—Same as Applied Mathematics 371. The fundamental principles of vibration theory and their application to technical problems. Free, damped, and forced vibrations; vibration-measuring instruments; dampers and absorbers; vibration isolation. Vibration of strings, shafts, and beams; critical speeds. Prerequisite: Applied Mathematics 326; senior standing in engineering or consent of instructor. Three lectures or recitations a week for one semester. Mr. Young.

275. *Elementary Soil Stabilization.*—Common methods of producing stabilized soil mixtures for use in embankments, bases, and wearing surfaces, and methods of testing these materials and mixtures. Prerequisite: Civil Engineering 221; credit or registration for Civil Engineering 360. Six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Focht.

276. *Airport Design.*—Factors influencing the location, design, and construction of airports, including lighting and terminal facilities; investigation of subgrades; design of base courses, pavements, and drainage. Prerequisite:

Civil Engineering 221 and credit or registration for Civil Engineering 360. Civil Engineering 275 in parallel is recommended. Two lectures a week for one semester. (To be offered for the first time in 1945-1946.)

278. *Sanitation*.—Communicable disease; water, milk, and food sanitation; excreta and refuse disposal; insect and rodent control; building sanitation; and general sanitation. Prerequisite: Senior standing. Two lectures a week for one semester. Mr. Graves. (To be offered for the first time in 1945-1946.)

279. *Advanced Materials Testing*.—Advanced testing problems, library assignments and laboratory tests relating to the electric, Huggenberger, Berry, and Whittemore strain gages; fatigue and creep tests; radiographic, magnetic, sonic, and electric test methods. Prerequisite: Civil Engineering 224b or 228; senior standing. Two lectures a week for one semester. Laboratory fee, \$2. Mr. Thompson. (To be offered for the first time in 1946-1947.)

381. *Advanced Dynamics*.—May count as mechanical engineering. General principles of the dynamics of rigid bodies, with application to advanced problems. Lagrange's equations of motion, Euler's equations, gyroscopic action. Prerequisite: Civil Engineering 374; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Young.

382. *Frame Analysis*.—Analysis of single story and simple multi-story frames by moment distribution methods; simple applications of the slope deflection method; study of frames containing variable section members. Prerequisite: Twelve hours of advanced civil engineering, including Civil Engineering 461; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Ferguson.

83a.i. *Advanced Reinforced Concrete*.—Advanced reinforced concrete theory, including such topics as flat slabs, combined direct stress and bending, critical study of specifications. Prerequisite: Twelve hours of advanced civil engineering, including Civil Engineering 461; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Ferguson.

383K. *Advanced Bridge Theory*.—The methods of deflection and least work applied to indeterminate structures, such as cantilever and continuous spans, suspension bridges, arches, and movable bridges. Prerequisite: Civil Engineering 263; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Finch. (Given for the first time in 1944-1945.)

85a.i. *Water Treatment*.—An intensive study of methods for improving the sanitary and chemical quality and the economic value of municipal water supplies. Prerequisite: Civil Engineering 72; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Graves.

85b.i. *Sewage Treatment*.—An intensive study of methods for the treatment of domestic sewage and industrial wastes. Prerequisite: Civil Engineering 72; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Graves.

87a.i. Soil Mechanics: Foundations.—Topics selected from the following: soil failures, stress distribution in soils, compressibility and consolidation, settlement of structures, choice of foundation types. Prerequisite: Twelve hours of advanced civil engineering, including Civil Engineering 360 and 461; graduate standing or consent of instructor. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Dawson.

87b.i. Soil Mechanics: Slopes and Embankments.—Topics selected from the following: shearing strength of soils, stability calculations, permeability, lateral earth pressure. Prerequisite: Twelve hours of advanced civil engineering, including Civil Engineering 360 and 461; graduate standing or consent of instructor. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Dawson.

91a.i. Advanced Highway Engineering: Traffic Control.—Traffic counts, causes of accidents and relief of congestion, traffic signal control, channelization of motor vehicle flow. Prerequisite: Civil Engineering 267; graduate standing or consent of instructor. Two lectures and three hours of supervised work a week for one semester. Mr. Focht.

91b.i. Advanced Highway Engineering: Highway Design.—Economics of highway improvement, vehicle time lost studies, elements of grade intersection design, freeways, parkways. Prerequisite: Civil Engineering 267; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Focht.

395. Applied Elasticity.—May count as mechanical engineering. Analysis of stress and strain in elastic bodies. Circular plates, thick cylinders, shrink fits, rotating disks, plastic bending and buckling, torsion of noncircular sections, bending stresses in pressure vessels. Prerequisite: Applied Mathematics 326; twelve hours of advanced courses in structures or machine design; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Young. (Given for the first time in 1942-1943.)

395K. Theory of Elasticity.—May count as mechanical engineering. General equations for stress and strain. Solution of two-dimensional problems by Airy's stress function. General theory of torsion; bending of prismatic bars; three-dimensional stress problems; contact pressures. Prerequisite: Applied Mathematics 326; twelve hours of advanced courses in structures or machine design; graduate standing or consent of instructor; Civil Engineering 395 is recommended. Three lectures a week for one semester. Mr. Young. (Given for the first time in 1944-1945.)

98. Thesis Course for the Master's Degree.—This course will vary in credit according to the work performed, its value being indicated by the course numbers 298, 398, 98, etc. Prerequisite: Graduate standing in civil engineering. Mr. Bantel, Mr. Finch, Mr. Focht, Mr. Ferguson, Mr. Young, Mr. Dawson, Mr. Graves.

The following courses are not regularly scheduled, but any of them will be given in the Long Session when a reasonable number of qualified students request it.

381K. Experimental Methods of Stress Analysis.—Theory and technique of photoelasticity, application of wire strain gages, strain rosettes, membrane analogy for torsion, measurement of dynamic strains, model analysis. Prerequisite: Twelve hours of advanced courses in strength of materials, structures, or machine design; graduate standing. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Young.

382K. Advanced Structural Analysis.—Analysis of selected problems in complex structures, such as irregular frames, wind and earthquake stresses, Vierendeel trusses, secondary stresses, beams curved in plan. Prerequisite: Civil Engineering 382. Three lectures a week for one semester. Mr. Ferguson.

83b. Advanced Reinforced Concrete.—Continuation of Civil Engineering 83a, with design problems. Prerequisite: Civil Engineering 83a. One lecture and six hours of supervised work a week for one semester. Mr. Ferguson.

84. Advanced Structural Design.—Design problems selected from various indeterminate structures, such as arches, rigid frames, and continuous bridges, or from complex riveted and welded connections. The first half may be counted independently. Prerequisite: Civil Engineering 382 or 83a; graduate standing and consent of instructor. Nine hours of supervised work a week for two semesters. Mr. Ferguson.

86. Advanced Sanitary Design.—Design of filters, sewerage systems, and disposal plants. The first half may be counted independently. Prerequisite: Credit or registration for Civil Engineering 85; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Graves.

387K. Soil Stabilization.—Design and testing of stabilized soil mixtures for use in embankments, subgrades, and wearing surfaces for airport runways, streets, and highways. Prerequisite: Twelve hours of advanced civil engineering, including Civil Engineering 275 and 360; graduate standing or consent of instructor. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Dawson.

391K. Some Engineering Problems in City Planning.—Parking street patterns, one-way streets, boulevards, zoning, parks, new subdivisions, etc. Prerequisite: Twelve hours of advanced civil engineering, including Civil Engineering 267; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Focht.

392. Geodetic Surveying.—The geodetic triangulation system. Critical study of survey methods, theory of errors, adjustment of field measurements, and computations necessary in making precise control surveys. Calculation of geodetic position. Prerequisite: Twelve hours of advanced civil engineering,

including Civil Engineering 340; graduate standing or consent of instructor. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Focht.

396. *Theory of Elastic Stability*.—General theory of elastic stability; buckling of struts, circular rings, and tubes; lateral buckling of beams; torsional instability of columns; buckling of plates and shells. Prerequisite: Applied Mathematics 326; twelve hours of advanced courses in structures or machine design; graduate standing. Three lectures a week for one semester. Mr. Young.

396K. *Theory of Plates and Shells*.—Lagrange's equations for bending of plates; analysis of rectangular and circular plates; membrane and bending theory of shells. Prerequisite: Applied Mathematics 326; twelve hours of advanced courses in structures or machine design; graduate standing. Three lectures a week for one semester. Mr. Young.

DEPARTMENT OF ELECTRICAL ENGINEERING

Robert Wilburforce Warner, B.A., E.E., D.Sc., *Professor of Electrical Engineering*.

Edwin Woodworth Hamlin, Ph.D. in E.E., *Professor of Electrical Engineering; Director, Electrical Engineering Research Laboratory*.²⁹⁴

Collier Read Granberry, M.S. in E.E., *Professor of Electrical Engineering; Assistant to the President*.²⁹⁵

Burns Newman Gafford, M.S. in E.E., *Professor of Electrical Engineering*.²⁹⁶
Archie Waugh Straiton, Ph.D., B.S. in E.E., *Associate Professor of Electrical Engineering*.²⁹⁷

Frederick Emerson Brooks, Jr., Dr. of Engineering, *Assistant Professor of Electrical Engineering*.²⁹⁸

Roy Rankin Krezdorn, B.S., *Assistant Professor of Electrical Engineering*.²⁹⁹

²⁹⁴Appointment as *Director, Electrical Engineering Research Laboratory*, effective July 1, 1945.

²⁹⁵Appointment as *Assistant to the President* effective March 24, 1945.

²⁹⁶Appointment changed from *Associate Professor* to *Professor*, effective September 1, 1944.

²⁹⁷Appointment effective September 1, 1943.

²⁹⁸Appointment effective September 1, 1943; absent on leave for the Fall Term of 1943-1944. Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945.

²⁹⁹Appointment as *Special Instructor* for the Winter and Spring Semesters of 1944-1945; appointment changed to *Assistant Professor*, effective September 1, 1945.

Leland Lewis Antes, M.S. in E.E., *Special Instructor in Electronics and Microscopy Specialist, Department of Electrical Engineering; Microscopy Specialist, Bureau of Engineering Research.*³⁰⁰

Cullen Malone Crain, B.S. in E.E., *Instructor in Electrical Engineering.*³⁰¹

Facilities for Graduate Study

The electrical laboratories are extensively equipped for graduate study and research in the field of electric communications, electronics, power transmission, high frequency circuits, direct- and alternating-current machinery, and illumination. The communications laboratory has apparatus for the study of voice and carrier frequency transmission over wires as well as for radio communication. In the electronics laboratory, electric welders, glass blowing equipment, ovens, and evacuating pumps make possible the construction of any type of vacuum tube. Up-to-date instruments are available for testing them. The illumination laboratory is equipped with all types of photometers for determining the characteristics of light sources, fixtures, and materials used in illuminating engineering.

For the fundamental sciences the Main Library and the libraries in mathematics, physics, and chemistry are available for graduate engineering students. In addition to these, the College of Engineering has a complete library of books, periodicals, and journals in the field of electrical engineering.

Degree Requirements

General prerequisites and requirements.—For the Master of Science in Engineering degrees, including the Master of Science in Communication Engineering, see pages 44 to 46. For the Doctor of Philosophy degree see pages 25 to 28.

Specific prerequisites and requirements.—The prerequisites for the Master of Science in Electrical Engineering degree must include the equivalent of the following junior and senior electrical engineering courses: Electrical Engineering 320, 421, 323, 438, 361, 362, and 464.

The major requirement other than the thesis may be selected from the graduate courses in electrical engineering and the following senior courses: Electrical Engineering 365, 366, 368, 369, 370, 373, 75, 376, and 378. Courses in mechanical engineering, hydraulics, physics, business administration, and economics are recommended for minor requirements.

Candidates majoring in electrical engineering for the degree of Doctor of Philosophy must take the first minor outside the College of Engineering.

³⁰⁰Appointment as *Special Instructor in Electronics and Microscopy Specialist, Department of Electrical Engineering*, effective March 1, 1943.

³⁰¹Appointment effective February 1, 1943; resignation effective September 23, 1944, military service.

Junior Courses

320. *Alternating-Current Circuits*.—Theory of alternating currents in single-phase and polyphase circuits; induced voltages, vectors and complex numbers, power, measurement of power, and symmetrical components. Prerequisite: Electrical Engineering 310 or 410, Physics 812, and Applied Mathematics 13. Three lectures a week for one semester. Mr. Hamlin, Mr. Antes.

421. *Electrical Engineering Laboratory*.—A laboratory course accompanying Electrical Engineering 320 and 323Q (or 323). Prerequisite or parallel: Electrical Engineering 320 and 323. Three laboratory hours and one written report a week for two semesters. Laboratory fee, \$4. Mr. Antes.

[323. *Alternating-Current Circuits*.—A continuation of Electrical Engineering 320. Non-sinusoidal waves, voltages and currents, transients and elements of transmission lines, and characteristics of direct-current machines. Prerequisite: Electrical Engineering 320. Three lectures a week for one semester. Mr. Warner, Mr. Gafford, Mr. Straiton. (Not to be given after 1945-1946.)]

323Q. *Alternating-Current Circuits*.—Continuation of Electrical Engineering 320. Non-sinusoidal waves, networks, transmission lines, and filters. Prerequisite: Electrical Engineering 320. Three lectures a week for one semester. (To be offered for the first time in 1946-1947.)

324. *Direct-Current Machinery and Storage Batteries*.—Theory, construction, operation, characteristics, and applications of direct-current motors, generators, and storage batteries. Prerequisite: Electrical Engineering 410. Two lecture and three laboratory hours a week for one semester. Mr. Krezdon. (To be offered for the first time in 1946-1947.)

327. *Illumination Engineering*.—Fundamentals of light and vision as applied to present illumination practice. Problems covering the design of representative lighting installations for exteriors and interiors. Color and its application to illumination problems. Introduction to applied photometry. Prerequisite: Physics 812 and credit or registration for Applied Mathematics 13a. Three lectures a week for one semester. Mr. Granberry.

328. *Telephony*.—Electrical Engineering 328 and 75 may not both be counted. A short course in telephony, covering the more important phases of communication systems. Prerequisite: Electrical Engineering 320. Three lectures a week for one semester. Mr. Hamlin.

331. *Electric Circuits and Machinery*.—For nonelectrical engineering students. Brief theory of direct- and alternating-current circuits and machinery; elements of power transmission and electronics. Prerequisite: Applied Mathematics 13 and Physics 812. Three lectures a week for one semester. Mr. Straiton, Mr. Antes.

431. *Electric Circuits and Machinery*.—For nonelectrical engineering students. Brief theory of direct- and alternating-current circuits and machinery;

elements of power transmission and electronics. Prerequisite: Applied Mathematics 13 and Physics 812. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Straiton, Mr. Antes.

35. *Direct and Alternating Currents*.—For nonelectrical engineering students. Theory of direct- and alternating-current circuits and machinery, including power transmission and electronics. Prerequisite: Physics 812 and Applied Mathematics 13. Three lectures a week for two semesters. Mr. Gafford, Mr. Straiton.

436. *Electrical Laboratory*.—For nonelectrical engineering students. A laboratory course accompanying Electrical Engineering 35. Prerequisite or parallel: Electrical Engineering 35. Three laboratory hours and one written report a week for two semesters. Laboratory fee, \$4. Mr. Antes.

438. *Engineering Electronics*.—Principles of electronics and their application to vacuum tubes, covering the more important aspects of thermionic and gaseous conduction; includes photo-sensitive cells, rectifiers, thyratrons, cathode-ray oscilloscopes, and corresponding circuit elements. Prerequisite or parallel: Electrical Engineering 323. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Hamlin, Mr. Brooks.

359. *Elements of Electric and Magnetic Field Theory*.—Fundamental electric and magnetic field theory with applications to electrical engineering problems; studies of field relations, forces and torques on conductors, and energy relationships. Prerequisite: Electrical Engineering 310 or 410. Three lectures a week for one semester.

Senior and Graduate Courses

360. *Electrical Engineering Laboratory*.—Elective course open to seniors in electrical engineering for original investigation of special problems approved by the Department. A final report is required. Prerequisite: Electrical Engineering 323. Nine laboratory hours a week, or the equivalent, for one semester. Laboratory fee, \$2. Staff of the Department.

361. *Electrical Machinery*.—Theory of transformers and alternating-current machines, including constants, efficiency, operating characteristics, and parallel operation; polyphase connections of transformers. Prerequisite: Electrical Engineering 323. Three lectures a week for one semester. Mr. Warner, Mr. Gafford.

362. *Electrical Machinery*.—Theory of alternating-current machines, efficiency, excitation, armature reaction, and armature windings; generators, synchronous motors and condensers, synchronous converters, single-phase and polyphase induction motors. Prerequisite: Electrical Engineering 361. Three lectures a week for one semester. Mr. Warner, Mr. Gafford.

464. *Electrical Engineering Laboratory*.—A laboratory course accompanying Electrical Engineering 361 and 362. Prerequisite: Electrical Engineering 421 and 323 and registration in 361 and 362. Three laboratory hours and one written report a week for two semesters. Laboratory fee, \$4. Mr. Antes.

365. *Short-Circuit Analysis.*—Study of unbalanced polyphase systems and analysis of short circuits on generators and transmission lines by the method of symmetrical components. Prerequisite: Applied Mathematics 325 and 326, and registration for Electrical Engineering 362. Three lectures a week for one semester. Mr. Warner, Mr. Gafford.

366. *Economic Application of Electrical Machines.*—Economic studies for engineering projects and for replacement, increment cost, load curves and forecasting, firm capacity, and rates. Prerequisite or parallel: Electrical Engineering 361 or 35b. Three lectures a week for one semester. Mr. Gafford.

368. *Electric Power Transmission.*—Electrical, mechanical, and economic features of overhead and underground transmission; short- and long-line solutions, skin effect, corona, insulation, and voltage control. Prerequisite: Applied Mathematics 325 and 326 and credit or registration for Electrical Engineering 361. Three lectures a week for one semester. Mr. Warner.

369. *Electric Power Distribution.*—Principles and methods of electric power distribution; urban and rural electrification systems; organization and operation of electric coöperatives. Prerequisite or parallel: Electrical Engineering 361. Three lectures a week for one semester. Mr. Warner.

370. *Industrial Electronics.*—Continuation of the study of electron tubes and circuits begun in Electrical Engineering 438, particularly in their non-communication uses. Polyphase rectifiers and inverters, amplifiers, oscillators, the use of vacuum and gas-filled tubes as control elements, application of photo- and cathode-ray tubes. Prerequisite: Electrical Engineering 421, 323, and 438. Two lectures and three laboratory hours a week for one semester. Mr. Straiton, Mr. Brooks. (Given for the first time in 1945-1946.)

372. *Electron Microscopy.*—A study of the electron microscope, including applied electron optics, electron microscope power supply and vacuum systems, electron diffraction, and the practical uses of the microscope as a research instrument. Prerequisite: Senior standing in the biological or physical sciences or engineering and consent of instructor. Two lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Antes. (Given for the first time in 1945-1946.)

373. *Transient Phenomena.*—Transient phenomena in electric circuits; general methods of determining behavior of networks with lumped constants; simple non-linear circuits; machines and transmission lines under transient disturbances. Prerequisite: Electrical Engineering 323 and Applied Mathematics 326. Three lectures a week for one semester.

374. *Applied Electronics.*—For nonelectrical engineering students. Basic theory and characteristics of electron tubes, and applications to radio communication, industrial control, and test-circuits. Prerequisite: Electrical Engineering 331 or 431 or Electrical Engineering 35b in parallel. Two lecture and three laboratory hours a week for one semester. Mr. Brooks. (To be offered for the first time in 1946-1947.)

75. *Communication Engineering*.—Electrical Engineering 75 and 328 may not both be counted. Communication systems, including the fundamental principles of transmitters and receivers, networks, the transmission line and loading, repeaters, modulators and demodulators. Prerequisite: Electrical Engineering 323 and credit or registration for Electrical Engineering 438. Three lectures a week for two semesters. Mr. Hamlin, Mr. Brooks.

376. *Communication Laboratory*.—A laboratory course accompanying Electrical Engineering 75. Prerequisite or parallel: Electrical Engineering 75. Three laboratory hours a week and one report every two weeks for two semesters. Laboratory fee, \$2. Mr. Hamlin, Mr. Crain.

077. *Inspection Trip*.—Noncredit course; required of all senior electrical engineering students. The trip covers from three to six days, and various points of engineering interest in Texas are visited. Since different regions are visited in successive years, junior students are permitted to accompany the seniors but do not receive credit for the trip. Cost of the trip should not exceed \$30. Prerequisite: Registration in Electrical Engineering 361 or 362. Staff of the Department.

378. *Protection of Electric Circuits and Equipment*.—Principles of operation and application of protective relays to electric circuits and apparatus. Prerequisite: Registration for Electrical Engineering 362 or 35b. Three lectures a week for one semester. Mr. Gafford.

381. *Advanced Communication Circuit Analysis*.—Theorems and properties of communication networks in steady-state and transient conditions. Prerequisite: Electrical Engineering 75a; Applied Mathematics 325 and 326; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Hamlin.

82. *Advanced Theory of Electrical Machinery*.—Analysis of synchronous and asynchronous machinery, including steady-state performance, operation with unbalanced voltages, short circuits, effects of switching and sudden loading, regulators, and excitation systems. Prerequisite: Electrical Engineering 362; Applied Mathematics 325 and 326; graduate standing or consent of instructor. Three lectures a week for two semesters.

83. *Advanced Electric and Magnetic Field Theory*.—Development of fundamental electromagnetic theory, including Maxwell's field equations, with treatment of mathematical techniques for applying the theory to problems in electrical engineering. Prerequisite: Electrical Engineering 362; Applied Mathematics 325 and 326; graduate standing or consent of instructor. Three lectures a week for two semesters.

384. *Electric Utility Rates*.—Study of rate structures and the methods of determining rates for service from electric power companies, including property valuation, appraisals, and inventories. Prerequisite: Twelve hours of advanced electrical engineering, including Electrical Engineering 362 or 35; Economics 312; Mechanical Engineering 420; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Warner.

386. *Administration of Electric Utilities.*—Organization and methods of operating electric utility companies. Prerequisite: Twelve hours of advanced electrical engineering, including Electrical Engineering 362 or 35; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Warner.

387. *Operational Circuit Analysis.*—Solution of circuits by means of Heaviside methods; linear networks with initially-charged condensers; use of infinite series of Heaviside operators in vacuum-tube circuits. Prerequisite: Twelve hours of advanced electrical engineering; Applied Mathematics 326; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Hamlin.

388. *Electric Power Systems.*—Equipment and design of circuits of central stations, substations, and distribution systems. Prerequisite: Twelve hours of advanced electrical engineering, including Electrical Engineering 362 or 35; Mechanical Engineering 420; graduate standing or consent of instructor. Three lectures a week for one semester.

390K. *Advanced Illuminating Engineering.*—Selected problems concerning light production in gases, vapors, and by fluorescense; advanced photometric concepts; calculation of illumination from sources of various configurations; and advanced color analysis and specifications. Prerequisite: Twelve hours of advanced electrical engineering, including Electrical Engineering 327; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Granberry.

392. *Radio Engineering.*—Radio receiving and transmitting systems, including antennas and wave propagation. Prerequisite: Applied Mathematics 325 and 326; credit or registration for Electrical Engineering 75b; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Hamlin.

393. *Television Engineering.*—Various television transmitters and receivers and the principles underlying their operation. Considerable library research will be required. Prerequisite: Electrical Engineering 75; Applied Mathematics 326; graduate standing or consent of instructor. Three lectures a week for one semester. Mr. Hamlin.

94. *Advanced Transmission Lines.*—Advanced problems of electric power transmission, including disturbances on lines caused by faults and switching surges; interconnections, power limits, and stability under steady-state and transient conditions. Prerequisite: Electrical Engineering 362 and 368; graduate standing or consent of instructor. Three lectures a week for two semesters. Mr. Warner.

95. *Techniques of Solving Engineering Problems.*—An integration of fundamental physical principles with mathematical methods of analysis, and application of these principles and methods to the solution of electrical engi-

neering problems. Prerequisite: Electrical Engineering 362; Applied Mathematics 325 and 326; graduate standing or consent of instructor. Three lectures a week for two semesters.

96, 396, 496. *Ultra-High Frequencies*.—A study of radio transmission and reception, including ultra-high-frequency techniques. Prerequisite: Electrical Engineering 75 or registration for Electrical Engineering 75b; graduate standing or consent of instructor. For 96, three lectures a week for two semesters; for 396, three lectures a week for one semester; for 496, an additional three hours of laboratory a week for one semester. Mr. Hamlin.

97. *Research Problems*.—Original investigation of special problems in the field of electrical engineering, the problem to be selected by the student with the approval of the Department. Prerequisite: Graduate standing in electrical engineering and consent of the Chairman of the Department. Laboratory fee, \$4. Mr. Warner, Mr. Granberry, Mr. Hamlin.

98. *Thesis Course for the Master's Degree*.—Prerequisite: Graduate standing in electrical engineering. Mr. Warner, Mr. Granberry, Mr. Hamlin.

99. *Thesis Course for the Degree of Doctor of Philosophy*.—Prerequisite: Eighteen hours of graduate electrical engineering and candidacy for the degree of Doctor of Philosophy in Electrical Engineering. Mr. Warner, Mr. Hamlin.

DEPARTMENT OF MECHANICAL ENGINEERING

Howard Edward Degler, M.S. in M.E., *Professor of Mechanical Engineering*.³⁰²
 Willis Raymond Woolrich, B.S. in E.E., M.E., *Professor of Mechanical Engineering; Dean of the College of Engineering; Director of the Bureau of Engineering Research*.

Milton John Thompson, Sc.D., M.S.E., *Professor of Aeronautics*.³⁰³

Carl John Eckhardt, Jr., M.S. in M.E., *Professor of Mechanical Engineering; Superintendent of Utilities*.

Byron Elliott Short, Ph.D., M.S. in M.E., M.M.E., *Professor of Mechanical Engineering; Research Engineer, Defense Research Laboratory*.³⁰⁴

Venton Levy Doughtie, M.S. in M.E., *Professor of Mechanical Engineering*.

Myron Louis Begeman, B.A., B.M.E., M.S., *Professor of Mechanical Engineering; Superintendent of Mechanical Engineering Shops*.³⁰⁵

³⁰²Absent on leave for 1945-1946.

³⁰³Appointment as *Professor of Aeronautics* for 1941-1942; appointment changed to *Professor of Aeronautical Engineering*, effective September 15, 1942, when the Department of Aeronautical Engineering was established.

³⁰⁴Appointment as *Research Engineer* effective September 1, 1945.

³⁰⁵Absent on leave from September 15, 1942, to September 1, 1944; military service.

Harry Llewellyn Kent, Jr., M.S. in M.E., *Associate Professor of Mechanical Engineering.*³⁰⁶

Luis Hamilton Bartlett, Ph.D., M.S. in Ch.E., *Associate Professor of Mechanical Engineering; Mechanical Research Engineer, Bureau of Engineering Research.*³⁰⁷

Leonard R. Benson, B.A., B.S. in M.E., *Assistant Professor of Mechanical Engineering.*³⁰⁸

Howard Earl Brown, B.S. in M.E., *Assistant Professor of Mechanical Engineering; Research Engineer, Defense Research Laboratory.*³⁰⁹

Facilities for Graduate Study

The mechanical engineering laboratories are well equipped for research work involving the use of steam and internal combustion engines, steam and gas turbines, compressing and pumping machinery, refrigeration machinery, quick freezing of foods, heating and ventilating equipment, and various kinds of heat transfer equipment; for research work in ferrous and non-ferrous metallurgy, foundry, welding, and metal cutting; and also for research in mechanical design.

In addition to the larger equipment enumerated above, the laboratories are supplied with all the necessary instruments and equipment for the study of steam, gas, or air flow, lubrication, and such gas and fuel analysis as is usually done in connection with power plant studies.

For the Doctor of Philosophy degree, major studies in industrial engineering, mechanical design, and thermodynamics and heat power engineering (including heat transmission, power plants, and refrigeration) can be pursued.

The mechanical engineering library is a part of the library of the College of Engineering. It contains most of the recent standard works on mechanical engineering subjects and many periodicals, as well as the proceedings of the prominent engineering societies.

Degree Requirements

General prerequisites and requirements.—For the Master of Science in Engineering degree, see pages 44 to 46. For the Doctor of Philosophy degree see pages 25 to 28.

³⁰⁶Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1943.

³⁰⁷Appointment as *Assistant Professor* effective September 1, 1943; appointment changed to *Associate Professor*, effective January 1, 1944.

³⁰⁸Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1943.

³⁰⁹Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1945; appointment as *Research Engineer* effective September 1, 1945.

Specific prerequisites and requirements.—Candidates majoring in mechanical engineering for the Doctor of Philosophy degree must take one minor outside the College of Engineering.

Junior Courses

420. Heat Engineering.—A study of the principles of thermodynamics, properties of gases, saturated and superheated vapors; fuels, combustion, and flue gas analysis; steam boilers, engines, and their auxiliaries; steam turbines, condensers, pumps, compressed air, and internal-combustion engines. Prerequisite: Applied Mathematics 13 and Physics 812. Four lectures or recitations a week for one semester. Mr. Degler, Mr. Kent, Mr. Benson, Mr. Brown.

320Q. Heat Engineering for Chemical Engineering Students.—Principles of thermodynamics, properties of gases, saturated and superheated vapors; steam boilers, engines, turbines, and their auxiliaries; condensers, pumps, compressed air, and internal-combustion engines. Prerequisite: Applied Mathematics 13 and Physics 812. Three lectures a week for one semester. Mr. Short. (Given for the first time in 1943-1944.)

224. Dynamics of Machinery.—A study of both the balanced and unbalanced forces acting upon machine parts, taking into account the masses and inertia of the parts, as well as the external forces. Balancing and vibration. Prerequisite: Civil Engineering 220 and Mechanical Engineering 322 or 312. Two lectures or recitations a week for one semester. Mr. Doughtie.

326. Thermodynamics.—Energy equations, reversibility, available energy, and entropy. The properties of gases and vapors. Combustion processes and heat transmission. Prerequisite: Applied Mathematics 13 and junior standing in engineering. Three lectures or recitations a week for one semester. Mr. Short, Mr. Kent.

327. Heating and Air Conditioning.—Special course for architecture students. Heat losses from buildings; direct and indirect steam, hot-water, and warm-air heating systems; ventilation and air conditioning. Prerequisite: Physics 401 and Applied Mathematics 305. Three lectures or recitations a week for one semester. Mr. Degler.

328. Thermodynamics.—Mechanical Engineering 328 and 352 may not both be counted. Continuation of Mechanical Engineering 326. Second law of thermodynamics; efficiencies and performance. Flow of gases and vapors. Gas cycles and thermodynamic processes with mixtures. Analyses of gas and vapor cycles. Prerequisite: Mechanical Engineering 326. Three lectures or recitations a week for one semester. Mr. Short, Mr. Kent.

[**30a.i. Pre-Flight Aeronautics: Navigation, Communications, and Civil Air Regulations.**—Will not count on any engineering degree; may be counted on the M.A. or M.Ed. degree with the approval of the Dean of the Graduate School. Prerequisite: Six hours of science or college mathematics. Three lectures a week for one semester. (Given in 1942-1943 only.)]

[30b.i. *Pre-Flight Aeronautics: Meteorology, Aerodynamics, and Aircraft Engines.*—Will not count on any engineering degree; may be counted on the M.A. or M.Ed. degree with the approval of the Dean of the Graduate School. Prerequisite: Six hours of science or college mathematics. Three lectures a week for one semester. (Given in 1942–1943 only.)]

240. *Mechanical Engineering Laboratory.*—Study of the use and calibration of instruments used in mechanical engineering. Deals with pressure, temperature, and velocity-measuring devices; boilers, engines, turbines, pumps, and compressors. Prerequisite or parallel: Mechanical Engineering 420 or 328. One lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Kent, Mr. Benson, Mr. Brown.

340Q. *Mechanical Engineering Laboratory for Chemical Engineering Students.*—Calibration of instruments; pressure, temperature, and power-measuring apparatus; calorimeters, heat transfer apparatus, boilers, engines, turbines, pumps, and compressors. Prerequisite or parallel: Mechanical Engineering 320Q. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Short. (Given for the first time in 1943–1944.)

342. *Heat Engineering with Laboratory.*—Heat engineering processes. Pressure, temperature, and power-measuring apparatus, compressors, calorimeters, fuels and burning equipment, flue gas analyses, and heat transmitting equipment. Prerequisite or parallel: Mechanical Engineering 326. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Short, Mr. Brown.

443. *Heat Engineering with Laboratory.*—Continuation of Mechanical Engineering 342. Steam generators, engines, and turbines. Internal-combustion engines and fuel systems. Heating, air-conditioning, and refrigeration equipment. Cooling towers and spray ponds. Prerequisite or parallel: Mechanical Engineering 342 and 328. Two lectures and six laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Short, Mr. Brown.

351. *Metallography of Iron and Steel.*—Lectures and laboratory work on heat treatment and micro-structure of ferrous metals. Prerequisite: Mechanical Engineering 311 and Civil Engineering 224b, or Chemistry 460 which may be taken in parallel. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Benson. (Given as a senior course, Mechanical Engineering 361K, in 1942–1943 and 1943–1944.)

353. *Industrial Engineering.*—The application of scientific management to the operation of the factory and allied departments of manufacturing industries. Principles of organization, job analysis, time studies, production control, routing, dispatching, inspection, testing, safety studies, personnel, inventories, etc. Prerequisite: Junior standing in engineering. Three lectures or recitations a week for one semester. (Given as a senior course, Mechanical Engineering 375, prior to 1944–1945.)

[257. *Fluid Mechanics.*—Fluid properties; fluid statics, dynamics of fluids, impulse and momentum, flow and measurement. Thermodynamics of compressible fluids. Resistance of immersed and floating bodies. Dynamic lift and propulsion. Prerequisite: Mechanical Engineering 326 and 342 and Applied Mathematics 325. Two lectures or recitations a week for one semester. Mr. Brown. (To be given as a senior course, Mechanical Engineering 272L, beginning in 1946-1947.)]

357. *Fluid Mechanics.*—For nonmechanical engineering students. Fluid flow, fluid measurement, and a study of the theory, construction, and operation of the principal types of machines for imparting velocity and pressure to fluids. Prerequisite: Mechanical Engineering 420 or 328, and 240. Three lectures or recitations a week for one semester. Mr. Short.

[258. *Applied Fluid Mechanics with Laboratory.*—Density of fluids, fluid gauges, friction study of oil and flow-measuring apparatus. Fluid impellent pumps, displacement and centrifugal pumps, fans, blowers, and compressors. Prerequisite or parallel: Mechanical Engineering 257. One lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Brown. (To be given as a senior course, Mechanical Engineering 273L, beginning in 1946-1947.)]

Senior and Graduate Courses

[361K. *Metallography of Iron and Steel.*—Lectures and laboratory work on heat treatment and micro-structure of ferrous and nonferrous metals and alloys. Oxyacetylene cutting and welding, and electric welding. Prerequisite: Mechanical Engineering 311 and 465K, the latter of which may be taken in parallel. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Benson. (Given as a junior course, Mechanical Engineering 351, after 1943-1944.)]

262K. *Seminar.*—Students present orally written reviews of papers in a specialized field of mechanical engineering. Bibliography of special topic; one paper may be the result of individual research. Prerequisite: Senior standing in mechanical engineering. Two lectures or recitations a week for one semester. Staff of the Department.

364. *Power Plants.*—The economic operation and maintenance of power-plant equipment. Isolated plants, central stations, and super-power stations. Load curve analysis; cost of power; methods of increasing efficiency and economy; selection of apparatus. Prerequisite: Mechanical Engineering 328 and 443. Three lectures or recitations a week for one semester. Mr. Eckhardt.

465K. *Machine Design.*—Fundamental principles; force analysis, stresses, selection of machine part for required task. Fastenings, shafts, belts, springs; tolerances and allowances. Problems in class and laboratory. Prerequisite: Mechanical Engineering 224 and 351 (or 361K) and Civil Engineering 333. Two lectures and six laboratory hours a week for one semester. Mr. Doughtie. (Given for the first time in 1942-1943.)

466K. Machine Design.—A continuation of Mechanical Engineering 465K. Theory underlying, and solution of, problems in lubrication, bearings, gears, brakes, clutches, frames, etc. The design of a complete machine will be made in the laboratory. Prerequisite: Mechanical Engineering 465K. Two lectures and six laboratory hours a week for one semester. Mr. Doughtie.

368. Machine Design.—Special course for aeronautical and electrical engineering students. Study of the forces, stresses, and resultant design of various machine elements of special interest to electrical engineering students. Prerequisite: Mechanical Engineering 211 or 311, and 312 (or 322) and Civil Engineering 333. Two lectures and three laboratory hours a week for one semester. Mr. Doughtie.

371K. Contracts and Specifications of Machinery.—Preparation of plans and specifications, negotiations, evaluation of bids, and awarding of contracts for equipment. Responsibilities of engineer, contractor, and owner in engineering projects. Prerequisite: Mechanical Engineering 353 (or 375) and 465K. Three lectures or recitations a week for one semester. Mr. Eckhardt.

272L. Fluid Mechanics.—Fluid properties; fluid statics, dynamics of fluids, impulse and momentum, flow and measurement. Thermodynamics of compressible fluids. Resistance of immersed and floating bodies. Dynamic lift and propulsion. Prerequisite: Mechanical Engineering 328 and Applied Mathematics 326. Two lectures or recitations a week for one semester. Mr. Brown. (Formerly a junior course, Mechanical Engineering 257; to be given as 272L for the first time in 1946-1947.)

273L. Applied Fluid Mechanics with Laboratory.—Density of fluids, fluid gauges, friction study of oil and flow-measuring apparatus. Fluid impellent pumps, displacement and centrifugal pumps, fans, blowers, and compressors. Prerequisite or parallel: Mechanical Engineering 272L (or 257). One lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Brown. (Formerly a junior course, Mechanical Engineering 258; to be given as 273L for the first time in 1946-1947.)

374L. Advanced Heat Transfer.—The laws of heat transmission and their application to the design of heat transfer apparatus; heaters, coolers, condensers, evaporators, and economizers, as used in oil refineries, power plants, etc. Prerequisite: Mechanical Engineering 328 and 443, or Chemical Engineering 63. Three lectures or recitations a week for one semester. Mr. Short. (Formerly a graduate course, Mechanical Engineering 386; given as 374L for the first time in 1943-1944.)

[*375. Industrial Engineering.*—Study of the application of scientific management to the operation of the factory and allied departments of manufacturing industries. Principles of organization, job analysis, time studies, production control, routing, dispatching, inspection, testing, safety studies, personnel, inventories, etc. Prerequisite or parallel: Mechanical Engineering 465K. Three lectures or recitations a week for one semester. (Given as a junior course, Mechanical Engineering 353, after 1943-1944.)]

375K. Tool Engineering.—Senior technical elective. Methods, processes, and tools involved in the manufacture of interchangeable machine parts. Gauges and measuring instruments; design of jigs, fixtures, punches, and dies; design of cutting tools; tooling and production problems. Prerequisite: Mechanical Engineering 465K or 368. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2.

376. Heating and Air Conditioning.—The theory and application of the principles of heating and ventilation. Heat losses from buildings; direct and indirect steam, hot-water, and warm-air heating systems; ventilation and air conditioning; humidity and temperature control. Prerequisite: Mechanical Engineering 328 and 443, or Chemical Engineering 63. Three lectures or recitations a week for one semester. Mr. Woolrich.

382. Advanced Industrial Engineering.—Lectures and problems in the functional design of industrial plants, types and arrangement of buildings, planning and routing, unit costs, maintenance, power applications, and machine layouts, with reference to economic production. Prerequisite: Twelve hours of advanced mechanical engineering, including Mechanical Engineering 353 or 375; graduate standing or consent of instructor. Three lectures or recitations a week for one semester. Mr. Begeman.

384. Industrial Plant Design.—Study of the detailed design of a factory building to fit the requirements of an assigned manufacturing problem. Selection and layout of equipment for economical production. Prerequisite: Mechanical Engineering 382; graduate standing or consent of instructor. One lecture and six laboratory hours a week for one semester. Mr. Begeman.

385. Power Plants.—Advanced study of design factors, installation and operation of power plants, including analyses of load characteristics, economic selection of equipment, and plant economy. Prerequisite: Mechanical Engineering 364; graduate standing and consent of instructor. Three lectures or recitations a week for one semester. Mr. Eckhardt.

387. Refrigeration.—The application of thermodynamics to problems of refrigeration. Types of refrigerating machines and plants, refrigerants, ice-making, cold storage, cooling of air, liquids, and solids. Construction details of commercial and household refrigerating plants and their economic operation. Prerequisite: Twelve hours of advanced mechanical engineering, including Mechanical Engineering 328 and 443; graduate standing or consent of instructor. Three lectures or recitations a week for one semester. Mr. Woolrich.

388. Internal-Combustion Engines.—The theory of internal-combustion engines; study of fuels, carburetion, ignition, governing, cooling, and lubrication; installation and economic operation. Prerequisite: Six hours of senior mechanical engineering, including Mechanical Engineering 465K; graduate standing or consent of instructor. Three lectures or recitations a week for one semester. Mr. Degler.

389K. Advanced Machine Design.—Deflection determination for machine parts subject to complicated loading; stress determination of indeterminate machine parts by strain energy-methods. Limitations of strength of material formulae and application to curved beams, thin plates, energy load, and stress concentration. Analyses of existing machines with emphasis on criteria affecting particular solutions. Prerequisite: Mechanical Engineering 466K; graduate standing or consent of instructor. Three lectures or recitations a week for one semester. Mr. Doughtie. (To be offered for the first time in 1945-1946.)

390K. Advanced Thermodynamics and Heat Power Engineering.—Thermodynamic relations; equations of state; properties of pure substances and of mixtures; experimental determination; construction of property charts; thermodynamic analysis of actual internal combustion engine cycles. Prerequisite: Mechanical Engineering 328 and 443 (or equivalent) and Applied Mathematics 325 and 326; graduate standing or consent of instructor. Three lectures or recitations a week for one semester. Mr. Short. (To be offered for the first time in 1945-1946.)

391K. Design of Turbines, Compressors, and Pumps.—Design and performance of steam and gas turbines; blowers, fans, centrifugal and axial flow compressors; centrifugal and axial flow pumps; and jet compressors and pumps. Prerequisite: Mechanical Engineering 443 and 273L (or 258), and Applied Mathematics 325 and 326; graduate standing or consent of instructor. Three lecture hours a week for one semester. Mr. Short, Mr. Brown. (To be offered for the first time in 1945-1946.)

393. Advanced Fluid Mechanics.—Hydrodynamics, viscous and compressible fluids, lubrication, laminar and turbulent flow. Shock waves, resistance at high speeds, relation to velocity of sound. Dynamic similarity and dimensional analysis. Prerequisite: Twelve hours of advanced mechanical engineering or civil engineering, including Mechanical Engineering 357, or 272L and 273L, or Civil Engineering 354; Applied Mathematics 326; and graduate standing. Three lectures or recitations a week for one semester. Mr. Short.

396. Nonferrous Materials and Metallurgy.—Study of chemical composition, manufacturing processes, physical properties, and uses of aluminum and magnesium alloys, wood, plastics, and other nonferrous materials used in aircraft construction. Prerequisite: Twelve hours of advanced mechanical engineering, including Mechanical Engineering 351 (or 361K); graduate standing or consent of instructor. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2.

97. Recent Advances in Mechanical Engineering.—Preparation for research and review of contemporary engineering literature. Advanced machine design, power plant design, heat transfer, engineering economics, refrigeration, air conditioning, internal-combustion engines, aeronautics, etc. Prerequisite: Graduate standing; consent of the Dean and of the Chairman of the Department. Time in class or laboratory will depend upon problem. Course covers two semesters. Mr. Degler, Mr. Woolrich, Mr. Eckhardt, Mr. Short, Mr. Doughtie.

98. *Thesis Course for the Master's Degree.*—This course will vary in credit according to the work performed, its value being indicated by the course numbers 298, 398, 98, etc. Prerequisite: Consent of the Dean and of the Chairman of the Department. Mr. Degler, Mr. Woolrich, Mr. Eckhardt, Mr. Begeman, Mr. Short, Mr. Doughtie.

99. *Thesis Course for the Degree of Doctor of Philosophy.*—Prerequisite: Eighteen hours of graduate rank in mechanical engineering and candidacy for the degree of Doctor of Philosophy in Mechanical Engineering. Mr. Degler, Mr. Woolrich, Mr. Eckhardt, Mr. Short.

DEPARTMENT OF PETROLEUM ENGINEERING

Harry Harrison Power, Ph.D., *Professor of Petroleum Engineering.*³¹⁰
George H. Fancher, D.Sc., *Professor of Petroleum Engineering.*³¹¹

Frederick Byron Plummer, M.S., *Geologist, Bureau of Economic Geology.*

Arthur Harwood Deen, M.A., *Professor of Geology.*

Degree Requirements

General prerequisites and requirements.—For the Master of Science in Engineering degree, see pages 44 to 46.

Specific prerequisites and requirements.—The course in petroleum engineering has been designed to give fundamental training in the application of mathematics, physics, chemistry, and geology to development problems, and to the production, transportation, measurement and storage of petroleum, natural gas, and natural gasoline.

The curriculum provides for a four-year course leading to the degree of Bachelor of Science in Petroleum Engineering, with an additional year of postgraduate study leading to the degree of Master of Science in Petroleum Engineering. Opportunities are also afforded in advanced studies and research to suit the individual requirements.

Students of unusual promise are advised to pursue the year of postgraduate study beyond the usual four-year curriculum. The Department recommends the course in petroleum engineering to prospective students who have well-defined aptitudes for employment in the petroleum industry.

³¹⁰Absent on leave for the Fall Term of 1945-1946.

³¹¹Absent on leave for the Fall Term of 1944-1945.

Junior Courses

20a. Petroleum Production Methods.—A review of petroleum technology. Nature, origin, and occurrence of petroleum; development methods; production problems; storage of oil; improved recovery methods; metering; transportation of oil and gas; oil field economics. Prerequisite: Junior standing in engineering or twelve hours of geology or chemistry or physics. Three lectures a week for one semester. Mr. Fancher, Mr. Sweeney.

20b. Petroleum Production Engineering.—Principles of reservoir mechanics. Prerequisite: Petroleum Engineering 20a and junior standing in engineering. Three lectures a week for one semester. Mr. Fancher.

20Qb. Petroleum Production Methods.—For nonengineering students. Prerequisite: Petroleum Engineering 20a. Laboratory fee, \$2. Two lectures and three laboratory hours a week for one semester. Mr. Sweeney.

321. Petroleum Engineering Laboratory.—Chemical and physical characteristics of petroleum and natural gas; mud fluids; emulsions; porosity, saturation, and permeability of sands and cores. Prerequisite: Chemistry 812, or 314 and 416; and credit or registration for Petroleum Engineering 20. Nine laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Sweeney.

[*322. Petroleum Design.*—Problem and laboratory course embracing the design, selection, and operation of oil field equipment. Prerequisite: Junior standing in engineering and credit or registration for Petroleum Engineering 20. Nine laboratory hours a week for one semester. (To be given as a senior course, Petroleum Engineering 362, after 1944–1945.)]

355. Geophysics (as Applied to Oil Prospecting).—Same as Geology 355. Interpretation and application of prospecting methods (seismic, magnetic, gravitational, electrical, etc.), with particular reference to the petroleum industry. Prerequisite: Geology 1 and twelve additional hours of geology or mathematics or physics. Three lectures a week for one semester. Lectures by men associated with the petroleum industry. (Not given in 1941–1942, 1943–1944, or 1944–1945.)

Senior and Graduate Courses

61. Petroleum Production Engineering.—Application of the fundamental sciences to development problems, and to the production, transportation, and storage of petroleum, natural gas, and natural gasoline. Case problems. Prerequisite: Senior standing in engineering, and Petroleum Engineering 20 or consent of instructor. Three lectures a week for two semesters. Mr. Power.

362. Production Technology and Design.—Problem and laboratory course embracing the design and operation of production plants and equipment. Prerequisite: Mechanical Engineering 322, Civil Engineering 333, and registration in Petroleum Engineering 61 and 464. Nine laboratory hours a week for one semester. (Given as a junior course, Petroleum Engineering 322, in 1942–1943, 1943–1944, and 1944–1945.) Mr. Sweeney.

364. Natural Gas Engineering.—Same as Petroleum Engineering 464 except that no laboratory is required. Prerequisite: Senior standing in engineering. Three lectures a week for one semester. Mr. Fancher. (Not given in 1942-1943.)

464. Natural Gas Engineering.—Production and transportation of gas; metering and gauging; gas flow; estimation of gas reserves; prevention of gas waste and utilization of natural gas. Prerequisite: Senior standing in engineering. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$4. Mr. Fancher.

365. Petroleum Economics and Valuation.—The economics of petroleum production. Principles and purposes of valuation. Prerequisite: Petroleum Engineering 20a or consent of instructor. Three lectures a week for one semester. Mr. Power.

80. Advanced Petroleum Engineering Laboratory.—Prerequisite: Twelve hours of advanced petroleum engineering, including Petroleum Engineering 321 or equivalent; graduate standing or consent of instructor. Course covers two semesters. Laboratory fee, \$4. Mr. Power, Mr. Plummer, Mr. Fancher.

81. Fluid Reservoirs.—Theory and application of fundamental principles. Prerequisite: Twelve hours of advanced petroleum engineering, including Petroleum Engineering 61 or equivalent; graduate standing or consent of instructor. Course covers two semesters. Mr. Fancher.

82. Research Problems.—Same as Geology 82. Prerequisite: Eighteen hours in geology, twelve of which must be advanced; graduate standing. Course covers two semesters. Mr. Deen.

83. Seminar.—Study of recent literature on petroleum production practice and petroleum engineering problems. Prerequisite: Graduate standing in petroleum engineering or geology. This course will vary in credit according to the work performed, its value being indicated by the course numbers 383, 83, etc. Mr. Power, Mr. Plummer.

384. Volumetric and Phase Relationships of Oil and Gas Mixtures.—The thermodynamic study of pressure-volume-temperature-composition relationships in oil and gas mixtures. Prerequisite: Twelve hours of advanced petroleum engineering; graduate standing in petroleum engineering or consent of instructor. Course covers one semester. Mr. Power.

385. The Mechanics of Oil and Gas Production.—Petroleum reservoir performance. Prerequisite: Twelve hours of advanced petroleum engineering; graduate standing in petroleum engineering or consent of instructor. Course covers one semester.

386. Pressure Maintenance.—The maintenance of reservoir pressure above normal declines during the primary and secondary recovery period by fluid injection. Prerequisite: Twelve hours of advanced petroleum engineering; graduate standing in petroleum engineering or consent of instructor. Course covers one semester. Mr. Power.

387. *Secondary Recovery of Petroleum*.—Secondary recovery of petroleum by gas injection, water flooding, and mining. Prerequisite: Twelve hours of advanced petroleum engineering; graduate standing in petroleum engineering or consent of instructor. Course covers one semester. Mr. Fancher.

98. *Thesis Course for the Master's Degree*.—This course will vary in credit according to the work performed, its value being indicated by the course numbers 298, 398, 98. Prerequisite: Graduate standing in petroleum engineering. Mr. Power, Mr. Plummer, Mr. Fancher.

COLLEGE OF FINE ARTS DEPARTMENT OF DRAMA

Ellsworth P. Conkle, Ph.D., *Associate Professor of Drama*.³¹²

Lawrence Carrà, B.A., M.F.A., *Assistant Professor of Drama; Director of the Experimental Theater*.

Mrs. Dorothy McLaughlin Lusk, B.S., M.F.A., *Assistant Professor of Drama*.³¹³
E. Parker Dupler, M.A., *Assistant Professor of Drama*.³¹⁴

Any advanced courses in drama may be counted as a minor for the degree of Master of Education, but the student must conform to the requirements in regard to rank of courses as specified under that degree. Drama 20, 21, 23 (or 323), 60, 62, 366, and 367 may be counted as a minor for the degree of Master of Arts with a major in education or literature, with the proper approval of the rank of courses and the correlation of the whole graduate program.

Junior Courses

20. *Playwriting*.—The student will write two short plays in the first semester and two short plays or one long play in the second semester. Prerequisite: Junior standing in drama with at least a C average, and the approval of the faculty of the Department; for students in other colleges and schools, junior standing and permission of the Chairman of the Department. Three lectures a week and work in departmental productions, Laboratory Theater, and major productions for two semesters. Mr. Conkle.

21. *Directing*.—Fundamental principles of play-directing. Demonstrations of theory in group exercises. Each student is required to direct two short scenes the first semester for class presentation and criticism, and a one-act play the second semester for departmental presentation and criticism. Prerequisite: Junior standing in drama with at least a C average, and the approval

³¹²Absent on leave for the Spring Semester of 1944-1945.

³¹³Appointment changed from *Instructor* to *Assistant Professor*, effective September 1, 1944.

³¹⁴Appointment effective October 11, 1943; resignation effective September 1, 1945.

of the faculty of the Department; for students in other colleges and schools, junior standing and permission of the Chairman of the Department. Three lectures a week and work in the Experimental Theater, Laboratory Theater, and major productions the first semester; two lectures a week and work in Drama 21 plays, the Experimental Theater, Laboratory Theater, and major productions the second semester. Mr. Carrà.

22. *Acting*.—Detailed study of characterization and styles of acting through class assignments of individual roles and group rehearsing of scenes. Prerequisite: Drama 310 and 311 with at least a *C* average, or their equivalent, and the approval of the faculty of the Department; for students in other colleges and schools, junior standing and the permission of the Chairman of the Department. Three lectures a week and work in the Experimental Theater, Laboratory Theater, and major productions for two semesters. Mrs. Lusk.

327. *Radio Drama*.—Study of outstanding radio plays, analysis of current dramatic programs, laboratory production of a wide variety of radio plays to develop acting technique. Prerequisite: Junior standing in drama; for radio majors and students in other colleges and schools, Speech 18K with a grade of at least *B*, and permission of the instructor. One lecture and two two-hour laboratory periods a week for one semester.

328. *Radio Writing: Drama*.—Adaptation of short stories and plays for radio. The serial play, children's plays, documentaries, originals. With special permission may be repeated for credit. Prerequisite: Junior standing in drama; for radio majors and students in other colleges and schools, Speech 18K with a grade of at least *B*, junior standing, and permission of the instructor. Two lectures and two laboratory hours a week for one semester.

329. *Radio Production Directing*.—Problems in the production of specialized shows. Experimental work in sound effects, music, and other technical problems incidental to broadcasting. Actual experience in directing productions in class and for workshop under the supervision of Radio House Staff as need arises. Observation of University and local station productions. Prerequisite: For drama majors, Drama 327 and permission of instructor; for radio majors and students in other colleges and schools, Drama 327, junior standing, and permission of the instructor. One lecture and four laboratory hours a week for one semester, the laboratory hours in part arranged according to Radio House schedule. (To be offered for the first time in 1945-1946.)

330. *Technical Production*.—Detailed study of the technical problems of theater production: methods of construction, handling of scenery, designer's drawings and technical drawings, backstage organization, properties, and sound effects. Prerequisite: Drama 317 or its equivalent, junior standing in drama with at least a *C* average, and the approval of the faculty of the Department; for students in other colleges and schools, junior standing and permission of the Chairman of the Department. (For 1945-1946 and 1946-1947, Drama 312 and 313 with at least a *B* average may be substituted for Drama 317.) Two

lectures and six laboratory hours a week for one semester. Mr. Dupler. (Formerly a six-hour course, Drama 30; to be given as 330 for the first time in 1946-1947.)

331. *Introduction to Costume Design.*—Study of the art of costume design in the theater. Costume in relation to the play, the directing, and other elements of production. Study of materials, dyeing, patterns, cutting, fitting, and sewing. Prerequisite: Drama 317 or its equivalent, junior standing in drama with at least a *C* average, and the approval of the faculty of the Department; for students in other colleges and schools, junior standing and permission of the Chairman of the Department. (For 1945-1946 and 1946-1947, Drama 312 and 313 with at least a *B* average may be substituted for Drama 317.) Two lectures and six laboratory hours a week for one semester.

32. *Fundamentals of Elementary- and Secondary-School Drama.*—Same as Education 32K. Drama 32 and 23 (or 326) may not both be counted. Introductory study of elementary- and secondary-school dramatics designed for prospective teachers on these levels. Theory and practice in directing, production for public schools, and creative drama. Prerequisite: Junior standing in drama with at least a *C* average, and the approval of the faculty of the Department; for students in other colleges and schools, junior standing and permission of the Chairman of the Department. Two lectures and three laboratory hours a week, and thirty hours a semester of technical crew for two semesters.

333. *Costume Design.*—Detailed practical experience in the preparation of costumes for productions. Technique of sketch presentation, designer's drawings, and plans for their execution. Prerequisite: For majors in technical production, Drama 331 with a grade of at least *B*; for others, Drama 331, or its equivalent, and permission of the instructor. Two lectures and six laboratory hours a week for one semester. (To be offered for the first time in 1946-1947.)

334. *Introduction to Scene Design.*—Technical consideration of design problems, model-making, and painter's elevation. Water-color rendering. Principles of stage lighting. Prerequisite: For majors in technical production, Drama 330 with a grade of at least *B*; for majors in directing and school dramatics, Drama 330 with a grade of at least *C*; for others, junior standing and permission of the instructor. Two lectures and six laboratory hours a week for one semester. (To be offered for the first time in 1946-1947.)

340. *History and Technique of the Motion Picture.*—Survey of motion pictures from their beginnings to the present time; motion pictures as a medium of dramatic expression. Prerequisite: Junior standing; for students in the Department of Drama, special permission of the Chairman of the Department. Three lectures a week for one semester. (Not given in 1943-1944 or 1944-1945.)

445. Dance Drama.—Beginning theory and practice in creative movement. Technique of dance, improvisation, solo and group choreography. Prerequisite: Junior standing and permission of the instructor. One lecture and three laboratory hours a week and work in productions for one semester. Laboratory fee, \$4. (To be offered for the first time in 1945-1946.)

354. Scene Design.—Problems of design in stage decoration. Technique of sketch presentation, designer's drawings, and painter's elevation. Prerequisite: For majors in technical production, Drama 334 with a grade of at least *B*; for others, Drama 334, or its equivalent, and permission of the instructor. Two lectures and six laboratory hours a week for one semester. (Prior to 1946-1947, given as a senior course, Drama 364.)

355. Stage Lighting.—Study of the types and characteristics of stage lighting instruments. Study of lighting layouts and analysis of switchboards. Introduction to the physics of light and electricity. Prerequisite: For majors in technical production, Drama 334 with a grade of at least *B*; for others, Drama 334, or its equivalent, and permission of the instructor. Two lectures and six laboratory hours a week for one semester. (Prior to 1946-1947, given as a senior course, Drama 365.)

Senior and Graduate Courses

60. Advanced Playwriting.—The student will write two long plays. With special permission this course may be taken a second time for credit. Prerequisite: For majors in playwriting, Drama 20 with a grade of at least *B*; for others, Drama 20 or its equivalent, and permission of the instructor. Four lectures a week for two semesters. Mr. Conkle.

61. Advanced Directing.—Style, type of play, and mood values in direction. Study of dramatic values. Each student majoring in directing is required to direct a short play and to prepare a complete production script of the play. In addition, each student is required to serve as assistant director or stage manager on a major production. Prerequisite: For majors in directing, Drama 21 with a grade of at least *B*; for others, Drama 21, or its equivalent, and permission of the instructor. Two lectures and six laboratory hours a week for two semesters. (To be offered for the first time in 1946-1947.)

62. Advanced Play Production.—Intensive study of the practical problems of play production. Each student will be required to serve as directed as production assistant on major productions. Each major in directing will, in addition, be required to direct a short play and to prepare a complete production script of the play. With special permission this course may be taken a second time for credit. Prerequisite: For majors in directing, Drama 21 with a *B* average; for majors in school dramatics, Drama 32 with a *B* average; for others, Drama 21a, or its equivalent, and the permission of the instructor. Two lectures a week and evening laboratory hours during rehearsals of the major productions for two semesters. Mr. Carrà. (Not to be given after 1945-1946.)

364. Problems in Scenic Design.—Problems of design in stage decoration and costume. Technique of sketch presentation, designer's drawings, and painter's elevation. Special problems will be given in advanced technical production from the designer's point of view. With special permission this course may be taken a second time for credit. Prerequisite: For majors in technical production, Drama 30 with at least a *B* average; for others, Drama 30, or its equivalent, and the permission of the instructor. Two lectures and six laboratory hours a week for one semester. (To be given as a junior course, Drama 354, after 1945–1946.)

365. Problems in Stage Lighting.—Study of the types and characteristics of stage lighting instruments. Detailed analysis of switchboards. Consideration of the history and design of lighting for styles of production and type of play. With special permission this course may be taken a second time for credit. Prerequisite: For majors in technical production, Drama 30 with at least a *B* average; for others, Drama 30, or its equivalent, and permission of the instructor. Two lectures and six laboratory hours a week for one semester. (To be given as a junior course, Drama 355, after 1945–1946.)

366. Play Analysis.—Study of the theory and philosophy of the theater; analysis of the various types of plays, both modern and historical, from the point of view of their production on a stage. Prerequisite: Senior standing. Three lectures a week for one semester. Mr. Carrà.

367. Dramatic Criticism.—Study and analysis of the nature of past and present-day criticism of the drama. Prerequisite: Senior standing. Three lectures a week for one semester. Mr. Conkle.

70. Advanced Acting.—Emphasis on flexibility of actor's equipment. Further practice and experience in creating and sustaining roles in plays of different types, styles, and periods. Study of dialects. With special permission this course may be taken a second time for credit. Prerequisite: For majors in acting, Drama 22 with a grade of at least *B*; for others, Drama 22, or its equivalent, and permission of the instructor. Three lectures a week and evening laboratory hours during rehearsals of productions for two semesters. Mrs. Lusk.

71a.i, 71b. Period Play Production.—Research studies and practical work in producing the drama of historical periods. Prerequisite: Senior standing in drama, Drama 21 or its equivalent, and approval of the faculty. Drama 71a is prerequisite to 71b. Two lectures and six laboratory hours a week for two semesters. (To be offered for the first time in 1946–1947.)

72a.i, 72b. Coaching and Repertoire.—Research studies in historical periods of drama. Individual instruction in the playing of dramatic roles. Prerequisite: Senior standing in drama, Drama 22 or its equivalent, and approval of the faculty. Drama 72a is prerequisite to 72b. Individual conferences for two semesters. (To be offered for the first time in 1946–1947.)

73a.i, 73b. Advanced Costume Design.—Research in the history of costume and practical experience in the design and preparation of costumes for the

stage, including sketches for projected costume designs, plans for their execution, and preparation of costumes used in productions. Prerequisite: Senior standing, Drama 333 or its equivalent, and approval of the faculty. Drama 73a is prerequisite to 73b. Two lectures and six laboratory hours a week for two semesters. (To be offered for the first time in 1946-1947.)

74a.i, 74b. Advanced Scene Design.—Research studies in the designs and technical problems involved in designing settings of every type, including period settings. Students will design and supervise the execution of settings for productions. Prerequisite: Senior standing, Drama 354 or its equivalent, and approval of the faculty. Drama 74a is prerequisite to 74b. Two lectures and six laboratory hours a week for two semesters. (To be offered for the first time in 1946-1947.)

75a.i, 75b. Advanced Stage Lighting.—The history, problems of application, and design of the lighting for various types of plays and styles of production. Students will design and supervise the lighting layout for productions. Prerequisite: Senior standing, Drama 355 or its equivalent, and approval of the faculty. Drama 75a is prerequisite to 75b. Two lectures and six laboratory hours a week for two semesters. (To be offered for the first time in 1946-1947.)

376. Decorative Arts.—Architectural ornament, interior architecture, furniture, and the minor arts in relation to scenic design. Prerequisite: For majors in technical production, Drama 334 with a grade of at least *B* or Drama 317 with a grade of *A*; for others, Drama 330 and 334, or their equivalent, and permission of the instructor. Two lectures and four laboratory hours a week for one semester. (To be offered for the first time in 1946-1947.)

377. Theater Management.—Principles and practices of production, stage business, and house management. Community theater management. Prerequisite: Senior standing in drama and approval of the faculty. Three lectures a week for one semester. (To be offered for the first time in 1947-1948.)

80. Conference Course in Playwriting.—Prerequisite: Twelve hours of advanced playwriting or the equivalent; graduate standing or permission of the instructor.

DEPARTMENT OF MUSIC

E. William Doty, Ph.D., B.Mus., *Professor of Music; Dean of the College of Fine Arts.*

Archie N. Jones, M.A., Mus.D., *Professor of Music Education.*

Donald Jay Grout, Ph.D., *Associate Professor of Music History.*³¹⁵

Chase Baromeo, B.A., M.Mus., *Professor of Voice.*

³¹⁵Appointment effective February 3, 1943; resignation effective June 30, 1945.

Dalies Ehrhardt Frantz, B.Mus., *Professor of Piano*.³¹⁶

Michael Max Winesanker, Ph.D., B.Mus., L.Mus., *Professor of Musicology*.³¹⁷

Homer Ulrich, M.A., *Associate Professor of Chamber Music; Music Director of Radio House*.³¹⁸

Robert Bernard Fitzgerald, M.Mus., *Assistant Professor of Music Education; Director of Men's Glee Club; Director of Symphonic Band*.³¹⁹

Kent Wheeler Kennan, M.Mus., *Instructor in Music Theory and Composition*.³²⁰

Frances Montague Newman, B.A., M.Mus., *Instructor in Piano and Theory*.³²¹

Degree Requirements

General prerequisites and requirements.—For the Master of Music degree, see pages 38 to 42.

Senior and Graduate Courses

461P. *Pedagogy of Theory*.—Outline of materials and procedure for an integrated two-year theory course. Students will be required to do practice-teaching in both freshman and sophomore college courses. Prerequisite: Senior standing in theory. One lecture and three laboratory hours a week for two semesters. Miss Newman. (Not given in 1943-1944.)

262. *Advanced Conducting*.—Problems in interpretation of the larger orchestral and choral works. Prerequisite: Music 422 or conducting experience. One lecture and two laboratory hours a week for one semester. Laboratory fee, \$2.

363. *Radio Music*.—Designed to acquaint the student with the problems and possibilities of music as an adjunct to broadcasting. Dramatic scripts are analyzed and musical transitions and backgrounds are selected from recordings. The musical repertoire is surveyed from the point of view of its mood content. Prerequisite: Music 302L; senior standing. Two lectures and two laboratory hours a week for one semester. Mr. Ulrich.

464. *Advanced Dictation*.—Harmonic dictation, using altered and mixed chords. Contrapuntal dictation in two, three, and four voices, using all clefs. Prerequisite: Music 411 and 12 and senior standing in music. Music 464a is prerequisite to 464b. Two lectures a week for two semesters.

³¹⁶Appointment effective September 15, 1943.

³¹⁷Appointment effective September 1, 1945.

³¹⁸Appointment as *Music Director of Radio House* for 1942-1943, 1943-1944, and 1944-1945.

³¹⁹Appointment as *Director of Symphonic Band* effective September 1, 1944.

³²⁰Absent on leave; military service.

³²¹Appointment effective September 1, 1944.

465. *Advanced Counterpoint*.—The study and writing of the more complex contrapuntal forms. Prerequisite: Music 425. Music 465a is prerequisite to 465b. Two lectures a week for two semesters.

466. *Advanced Orchestration*.—Problems in scoring original compositions and making arrangements for the modern symphony orchestra. Prerequisite: Music 426 or permission of the instructor. Two lectures a week for two semesters.

467a.i, 467b.i. *Band Instrumentation*.—Techniques in writing and arranging for the instrumentation of military and concert bands. Particular attention to instrument substitutions and the consequent changes in the score. Prerequisite: Music 426a and senior standing in music. Two lectures a week for two semesters. Mr. Fitzgerald. (Given as a two-hour course, Music 267, in 1943-1944 and 1944-1945.)

468a.i, 468b.i. *Advanced Composition*.—Projects in writing for orchestra in the larger forms; conducted through individual conferences. The student must demonstrate through submitted compositions a thorough knowledge of harmony, counterpoint, and orchestration as well as creative ability before being admitted to the course. Prerequisite: Permission of the instructor. Individual conferences for two semesters.

371. *Keyboard Instrument Literature*.—A survey of the literature for keyboard instruments. Prerequisite: Music 30. Three lectures and one laboratory hour a week for one semester.

372. *Survey of Operatic Literature*.—A study of operas illustrating the basic types. Lectures, readings, and actual singing of scores. Prerequisite: Music 30 and senior standing. Three lectures and one laboratory hour a week for one semester.

473a.i, 473b.i. *Advanced Chamber Music*.—Detailed study of selected works in the literature from 1750 to the present. Examination of the principles of musical interpretation. Prerequisite: Music 30 and 433.1. One lecture and three laboratory hours a week for two semesters. Mr. Ulrich. (Given also as a six-hour course, Music 73, in 1943-1944.)

474a.i, 474b.i. *Advanced Chamber Music for Wind Instruments*.—Study and performance of selected chamber music works for wind instruments. Survey of the literature with a view toward making arrangements for wind ensemble groups. Prerequisite: Music 30 and 433.2. One lecture and three laboratory hours a week for two semesters. Mr. Ulrich. (Not given in 1943-1944 or 1944-1945.)

375. *Twentieth-Century Music*.—The form, style, and idiom of modern music. Prerequisite: Senior standing and Music 30. Three lectures a week for one semester. (Not given in 1943-1944 or 1944-1945.)

376. *Bach*.—A study of the style of Bach. Prerequisite: Senior standing and Music 30. Three lectures a week for one semester. (Not given in 1943-1944 or 1944-1945.)

377. *Choral Literature*.—Music 377 and 31 may not both be counted. Selected masterworks in the field of choral literature. Prerequisite: Music 30 and senior standing. Three lectures a week for one semester. (Not given in 1943-1944, 1944-1945, or 1945-1946.)

378. *Symphonic Literature*.—Music 378 and 32 may not both be counted. Selected masterworks written for symphony orchestra. Prerequisite: Music 30 and senior standing. Three lectures a week for one semester.

80. *Advanced Studies in the History of Music*.—An intensive study of the music of the medieval and renaissance periods, and of its backgrounds in older civilization. Prerequisite: Graduate standing in music; twelve hours of advanced courses in music literature; consent of instructor. Three lectures a week for two semesters.

81. *Seminar in Musicology*.—Selected problems in the history of music. Prerequisite: Graduate standing in music; twelve hours of advanced courses in music literature; consent of the instructor. Conducted through individual and group conferences for two semesters. (Not given in 1943-1944 or 1944-1945.)

82. *Seminar in Music Education*.—Same as Education 82M. A survey and discussion of research studies in music education. Review and criticism of philosophies and curricula in music education. Prerequisite: Graduate standing in music; twelve hours of advanced music education; consent of instructor. Three lectures a week for two semesters. Mr. Jones. (Not given in 1943-1944.)

83K. *Special Problems in Music Education*.—Same as Education 83M. Prerequisite: Graduate standing in music or education; twelve hours of advanced music education; consent of instructor. Mr. Jones.

488. *Seminar in Composition*.—Free composition in larger forms with emphasis placed on writing for orchestra, chorus, and chamber music. Prerequisite: Music 468 or the equivalent; graduate standing or consent of instructor. Mr. Kennan. (To be offered for the first time in 1945-1946.)

98. *Thesis Course for the Master's Degree*.—Research course dealing with special problems in music education. Conducted through individual conferences. Prerequisite: Twelve hours of advanced courses in music; graduate standing in music or consent of instructor. Mr. Doty, Mr. Jones.

880. *Graduate Courses in Applied Music*.—Offered in the following instruments: Organ, Piano, Violin, Violoncello, and Voice. Prerequisite: Course 860 in the instrument elected; the Bachelor of Music degree with honors or the equivalent; approval of the graduate faculty of the Department of Music. Two half-hour lessons and a minimum of twenty practice hours a week for two semesters. Laboratory fee, \$2 a semester. Supplementary fee, \$35 a semester.

COLLEGE OF PHARMACY

William Francis Gidley, Ph.C., B.S. in Phar., *Professor of Pharmacy; Dean of the College of Pharmacy.*

William Rust Neville, Jr., Ph.G., *Associate Professor of Pharmacy.*

Carl Clarence Albers, B.S. in Phar., Ph.D., *Associate Professor of Pharmacognosy.*

Louis William Schleuse, B.A., B.S. in Phar., *Associate Professor of Pharmacy.*³²²

John Richard Stockton, M.A., B.S. in Phar., *Assistant Professor of Pharmacy.*³²³

Virginia Blanche Fuchs, B.S. in Phar., *Instructor in Pharmacy.*³²⁴

Junior Courses

[23. *Pharmacology, Posology, and Toxicology.*—Action, usage, dosage, and poisonous properties of vegetable, mineral, and animal drugs. Prerequisite: Chemistry 10; Pharmacy 1 and 13; and Zoology 1 or Physiology 6. Junior or senior premedical students may take this course without Pharmacy 1 or 13. Either semester may be taken first. Three lectures, recitations, or demonstrations a week for two semesters. Mr. Stockton. (To be given as two independent three-hour courses, Pharmacy 23a.i and 23b.i, beginning in 1946-1947.)]

23a.i. *Pharmacology, Toxicology, and Posology.*—The pharmacology and toxicology of anti-infective agents and locally-acting drugs, and the study of drug dosage. Prerequisite: Chemistry 10; Pharmacy 1 (or 818) and 13; and Zoology 1 or Physiology 6 or the equivalent. Junior and senior premedical students may take this course without the pharmacy courses as prerequisites. Three lectures a week for one semester. Mr. Stockton. (To be given as Pharmacy 23a.i for the first time in 1946-1947.)

23b.i. *Pharmacology and Toxicology.*—The pharmacology and toxicology of drugs used for their systemic effects. Prerequisite: Chemistry 10; Pharmacy 1 (or 818) and 13; and Zoology 1 or Physiology 6 or the equivalent. Junior and senior premedical students may take this course without the pharmacy courses as prerequisites. Three lectures and two laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Stockton. (To be given as Pharmacy 23b.i for the first time in 1946-1947.)

³²²Appointment changed from *Assistant Professor* to *Associate Professor*, effective September 1, 1945; absent on leave for 1945-1946.

³²³Appointment changed from *Instructor* to *Assistant Professor*, effective February 1, 1945.

³²⁴Appointment as *Tutor* effective September 1, 1945; appointment changed to *Instructor*, effective March 1, 1946.

227. *Inorganic Medicinal Products.*—Official and important unofficial inorganic pharmaceuticals, preparations, etc. Prerequisite: Pharmacy 1 or 818, and 2 or 302; Chemistry 801; junior standing. Two lectures and two laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Stockton. (Formerly a three-hour course, Pharmacy 327; to be given as 227 for the first time in 1946-1947.)

[327. *Advanced Pharmacy.*—Official inorganic pharmaceutical substances, preparations, etc. Prerequisite: Chemistry 801; Pharmacy 1; junior standing. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Schleuse. (To be given as a two-hour course, Pharmacy 227, after 1945-1946.)]

328. *Advanced Pharmacy.*—Official organic pharmaceutical substances and preparations. Prerequisite: Chemistry 10 or 821; Pharmacy 1; junior standing. Three lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Stockton. (To be given as a four-hour course, Pharmacy 428, after 1946-1947.)

428. *Organic Medicinal Products.*—Official and important unofficial organic pharmaceuticals, preparations, etc. Prerequisite: Chemistry 10 or the equivalent; Pharmacy 1 or 818, and 2 or 302; junior standing. Two lectures and two laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Stockton. (Formerly a three-hour course, Pharmacy 328; to be given as 428 for the first time in 1947-1948.)

[230. *Public Health and Hygiene.*—Information which a pharmacist uses in his professional practice and as an informed citizen, not as a professional worker in public health. Prerequisite: Junior standing. Two lectures a week for one semester. Mr. Gidley. (To be given only as a three-hour course, Pharmacy 330, after 1945-1946.)]

330. *Personal Hygiene and Public Health.*—Simple personal health problems relating to the skin, hair, teeth, eyes, feet, etc.; minor accidents; public health problems. Prerequisite: Junior standing. Three lectures a week for one semester. Mr. Gidley. (Formerly a two-hour course, Pharmacy 230; given as 330 for the first time in 1945-1946.)

234. *Sources of Pharmaceutical Information.*—Prerequisite: Junior standing. Two lectures a week for one semester. Mr. Albers. (Not given in 1945-1946.)

335. *History of the Cultivation of Medicinal Plants.*—Prerequisite: Pharmacy 13 and junior standing. Three lectures a week for one semester. Mr. Albers.

337. *Biological Medicines.*—Functions, uses, production, and exhibition of the numerous biologics, such as glandular extracts, hormones, antihormones, enzymes, vitamins, vitazymes, vitagens, antibiotics, etc. Prerequisite: Chemistry 10, Zoology 1 or Physiology 6 or the equivalent; junior standing. Three lectures a week for one semester. Mr. Gidley. (To alternate with Pharmacy 263; to be given in 1946-1947.)

342. *Plant Extraction.*—Study and application of scientific principles applied to the investigation of crude plant material for its mineral content and proximate principles, with special attention devoted to the use of selective solvents. Prerequisite: Junior standing and consent of instructor. One lecture and six laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Albers. (Not given in 1944-1945.)

251. *Prescription Problems of the New and Non-Official Remedies.*—Laboratory study of actual problems arising from the many and varied combinations involving the new synthetic remedies. Prerequisite: Pharmacy 466a and consent of instructor. One lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Neville. (Formerly a senior course, Pharmacy 361; to be given as 251 for the first time in 1946-1947.)

252. *Parasiticides and Parasitology.*—Special formulae and pharmaceutical research dealing with insecticides, fungicides, rodenticides, pediculicides, etc. Prerequisite: Zoology 1 or Physiology 6; Chemistry 10; Pharmacy 23 and 428 (or 328); junior standing with at least a C average. One lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Neville. (Formerly a senior course, Pharmacy 262; to be given as 252 for the first time in 1947-1948.)

355. *New and Non-Official Remedies.*—Sources, composition, theoretical and actual uses, exhibition, etc., of the many new medicinal remedies. Prerequisite: Pharmacy 23, 227 or 327, and 328 or 428; credit or registration for Bacteriology 29. For premedical seniors, at least a B average, Chemistry 10 or 821, and credit or registration for Bacteriology 29. Three lectures and recitations a week for one semester. Mr. Gidley.

Senior Courses

60. *Original Pharmaceutical Research.*—Original investigation in the field of pharmacy proper. Prerequisite: Senior standing and consent of instructor. One lecture and nine laboratory hours a week for two semesters. Laboratory fee, \$4. Pharmacy staff. (Not given in 1944-1945.)

[361. *Prescription Problems of the New and Non-Official Remedies.*—Laboratory study of actual problems arising from the many and varied combinations involving the new synthetic remedies. Prerequisite: Pharmacy 466a and consent of instructor. Two lectures and four laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Neville. (Given also as Pharmacy 261 in 1944-1945; to be given as a junior course, Pharmacy 251, after 1945-1946.)]

262. *Parasiticides and Parasitology.*—Special formulae and pharmaceutical research dealing with insecticides, fungicides, rodenticides, pediculicides, etc. Prerequisite: Zoology 1 or Physiology 6; Chemistry 10; Pharmacy 23 and 328; senior standing with at least a C average. One lecture and four laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Neville. (Not given in 1945-1946; to be given as a junior course, Pharmacy 252, after 1946-1947.)

263. *Cosmetology*.—All varieties of cosmetics are studied scientifically and through the laboratory. Prerequisite: Chemistry 10; Pharmacy 23, 227 or 327, and 328 or 428; senior standing with at least a *B* average; consent of instructor. One lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Gidley. (Given as 363 in 1944-1945; not given in 1945-1946. To alternate with Pharmacy 337; not to be given in 1946-1947.)

364. *Diagnostic Procedures in Blood, Urine, and Stomach Analysis*.—Prerequisite: Chemistry 10 or 821; Bacteriology 29; Pharmacy 328 or 428; senior standing with at least a *C* average; consent of instructor. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Stockton. (Not given in 1944-1945 or 1945-1946.)

365. *Official Medicines*.—Systematic and careful study of all official, legally-recognized remedies. Prerequisite: Pharmacy 23, 227 or 327, and 328 or 428. Three recitations or quizzes a week for one semester. Mr. Gidley.

466. *Prescription Practice*.—The many problems of the thoroughly equipped prescription specialist. In the laboratory each student fills, checks, copies, and files over four hundred doctor's prescriptions. Prerequisite: Pharmacy 316, 23, 227 or 327, and 328 or 428; credit or registration for Bacteriology 29 or 316; senior standing. Two lectures or recitations and four laboratory hours a week for two semesters. Laboratory fee, \$4. Mr. Neville.

367. *Bio-assaying and Quantitative Examinations*.—Essential activities of drugs and their determinations. Prerequisite: Chemistry 416 or the equivalent, and credit or registration for Pharmacy 23. Two lectures and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Stockton. (To be offered for the first time in 1947-1948.)

268. *Toxicological Analysis*.—Laboratory study of methods used in identification of poisons, including their isolation from foods, medicines, animal tissues, and body fluids; applications of these methods to criminology and industrial hygiene are emphasized. Poisons encountered in warfare are considered. Prerequisite: Chemistry 10 or 21, 42 or 442; senior standing; consent of instructor. One lecture and three laboratory hours a week for one semester. Laboratory fee, \$2. Mr. Stockton. (Not given in 1944-1945 or 1945-1946.)

269. *Dispensary Prescription Compounding*.—The compounding of doctors' prescriptions in the University Dispensary. To be preceded or accompanied by Pharmacy 466. Three laboratory hours a week for two semesters. Laboratory fee, \$2. Mr. Neville, Miss Fuchs.

SCHOOL OF MEDICINE

Facilities for graduate study and investigation are available in various departments of the School of Medicine, Medical Branch, Galveston. See the Master of Arts degree on pages 31 to 34. For additional information consult the Catalogue of the Medical Branch.

DEGREES CONFERRED IN 1941, 1942, 1943, AND 1944
IN THE
GRADUATE SCHOOL

LONG SESSION, 1940-1941

June 2, 1941

Doctor of Philosophy

Mrs. Mozelle Scaff Allen, English and American Literature, English and Germanic Languages, and French Language and Literature.

Thesis: *Poe's Debt to Gautier, to Pascal, and to Voltaire.*

B.A., East Texas State Teachers College, 1925; M.A., Texas, 1930.

Ethelbert Courtland Barksdale, American History, Modern Continental European and English History, and Government.

Thesis: *Semi-Regular and Irregular Warfare in the Civil War.*

B.A., Texas, 1928; M.A., 1931.

Ferdinand Charles Bieseile, Algebra and Group Theory, Point Set Theory and Analysis, and Physics.

Thesis: *Substitutes for the Commutative Law in the Theory of Semi-Groups.*

B.A., Texas, 1932; M.A., 1933.

Evelyn Blair, History and Philosophy of Education, Spanish Drama, and Art of Teaching.

Thesis: *Educational Movements in Mexico: 1821 to 1836.*

B.A., Texas, 1925; M.A., 1930.

Mary Louise Breedlove, English Literature, Germanic Linguistics, and Latin Literature and Language.

Thesis: *The "Bucolicum Carmen" of Petrarch and Its Relation to the "Shephearde's Calender" of Spenser: An Edition with Introduction, Translation, Commentary, and Notes.*

B.A., Oklahoma College for Women, 1928; M.A., Illinois, 1929.

Samuel Mortimer Brown, Educational Administration, History and Philosophy of Education, and Business Administration (Investments).

Thesis: *A Study of the Cost of Financing the State's Contribution to a Teacher Retirement System, with Special Emphasis on the Teacher Retirement System of Texas.*

B.B.A., Texas, 1925; M.A., Teachers College, Columbia, 1931.

Leon Walton Camp, Physics (Mechanics), Applied Mathematics, and Physical Chemistry.

Thesis: *Analysis of a Method Using Electrostatic Forces in Measuring Variations in the Earth's Gravitational Field.*

B.S., North Texas State Teachers College, 1926; M.A., Columbia, 1928.

Vernon Hendrum Cheldelin, Bio-Organic Chemistry, Physical Chemistry, and Physiology.

Thesis: *The Adsorption of Ampholytes on Activated Charcoal.*

B.A., Reed College, 1937; M.S., Oregon State College, 1939.

James Franklin Crow, Zoology (Genetics), Mathematics, and Botany and Bacteriology.

Thesis: *Interspecific Relationships in the Drosophila Mulleri Group.*

B.A., Friends University, 1937.

Herschel Herbert Cudd, Physical Chemistry, Analytical Chemistry, and Applied Mathematics.

Thesis: *The Isopiestic Method of Determining Activities Applied to the Alkali Sulphates.*

B.A., Texas College of Arts and Industries, 1933; M.A., Texas, 1936.

William Aaron Cunningham, Chemical Engineering, Physical Chemistry, and Mechanical Engineering.

Thesis: *Properties and Manufacture of a High Strength Plaster.*
B.S. in Ch.E., Texas, 1927; M.S. in Ch.E., 1929.

Floyd Francis Davidson, Botany and Zoology.

Thesis: *Taxonomy of the Texas Zygnemataceae.*
B.A., Baylor, 1932; M.A., 1933.

Marian Frances De Shazo, French Literature and Language, Modern Spanish Literature, and Modern English Literature.

Thesis: *The Poetry of Achille Millien: A Study in Nineteenth Century French Regionalism.*
B.A., Texas, 1927; M.A., 1928.

James Alvin Dinwiddie, Chemical Engineering, Organic Chemistry, and Applied Mathematics.

Thesis: *Deviations from Raoult's Law: Vapor-Liquid Equilibrium in the Ternary System, Methanol-Ethanol-Water.*
B.A., M.A., Texas, 1935.

Clarence Eugene Dugdale, English Literature, Germanic Languages, and Medieval History.

Thesis: *Christ against Antichrist with Bunyan and His Contemporaries.*
B.A., Louisiana State Normal College, 1924; M.A., Texas, 1932.

Richard Alvin Glenn, Organic Chemistry, Physical Chemistry, and Bacteriology.

Thesis: *Investigation of Nitrogen Bases from Kerosene Extracts.*
B.A., North Texas State Teachers College, 1936; M.A., Texas, 1939.

Thomas Robert Havins, American History, European History, and Education.

Thesis: *Noah T. Byars—A Study in Baptist Missionary Effort on the Frontier.*
B.A., Howard Payne College, 1927; M.A., Texas, 1931.

Charles Burt Holder, Jr., Organic Chemistry, Chemical Engineering, and Bacteriology.

Thesis: *Synthesis of Certain Derivatives of 5-Methyl-5-Phenethylhydantoin.*
B.A., Transylvania College, 1936; M.S., Georgia School of Technology, 1938.

Joe Thomas Horeczy, Organic Chemistry, Chemical Engineering, and Physical Chemistry.

Thesis: *Isolation and Study of a C₁₀H₁₈O₂ Naphthenic Acid Obtained from a California Straight-Run Gasoline Distillate.*

B.S., Southwest Texas State Teachers College, 1934; M.A., Texas, 1939.

Mary Ameta Hufford, English Literature, Germanic Linguistics, and French Literature.

Thesis: *John Tillotson, Prophet of Reasonableness.*
B.A., Texas, 1927; M.A., 1929.

David Druen Humphreys, Organic Chemistry, Physics, and Chemical Engineering.

Thesis: *The Synthesis of 5,5-Disubstituted Hydantoins from Disubstituted Aminoacetonates Containing Two Unlike Alkyl Substituents.*
B.S., Texas Technological College, 1936; M.A., 1938.

Andrew William Hunt, Jr., Educational Administration, Curriculum and Instruction, and Systematic Psychology.

Thesis: *Migration and Population Changes and Their Educational Implications.*
B.A., Baylor, 1931; M.A., 1933.

William Clyde Ikins, Geology (Paleontology), Botany, and Stratigraphy.

Thesis: *Stratigraphy and Paleontology of the Walnut and Comanche Peak Formations.*
B.S. in Geol., Texas, 1938; M.A., 1939.

James Homer Jones, Physical Chemistry, Organic Chemistry, and Physics.

Thesis: *An Experimental Determination of the Activity Coefficients of the Methylamine Hydrochlorides in Aqueous Solutions.*
B.S., North Texas State Teachers College, 1937; M.S., 1938.

Bettie Juresco, Greek and Latin.

Thesis: *A Study of the Influence of Orphism on the Dialogues of Plato.*
B.A., California, 1938; M.A., 1939.

Edward Albert Kelso, Physical Chemistry, Chemical Engineering, and Applied Mathematics.

Thesis: *The Pressure-Volume-Temperature Relations of Some Isomeric Hexanes.*
B.A., Texas, 1936; M.A., 1938.

- W. Jay Kennedy, Experimental Physics, Modern Physics, and Applied Mathematics.
 Thesis: *An Absolute Pressure Generator and Its Application to Microphone Calibration.*
 B.S., Central Oklahoma State Teachers College, 1926; M.S., Oklahoma, 1929.
- Sonley Robert LeMay, Educational Administration, Secondary Education, and Agricultural Economics.
 Thesis: *The Relative Efficiency of the Louisiana and the Texas Types of County School Organization.*
 LL.B., Texas, 1914; B.A., 1916; B.S., Agricultural and Mechanical College of Texas, 1922; M.A., George Peabody College, 1930.
- Mrs. Dorothy Russell Long, English and American Literature, Germanic Philology, and Medieval and Renaissance History.
 Thesis: *The Middle Class: Its Treatment in Early Seventeenth Century English Drama.*
 B.A., College of Industrial Arts, 1927; M.A., Texas, 1929.
- Loren Marlin Long, Organic Chemistry, Physical Chemistry, and Applied Mathematics.
 Thesis: *Hydantoins from Ketone Derivatives of Biphenyl.*
 B.S., North Texas State Teachers College, 1937; M.S., 1939.
- Cleo Gwendolyn McChristy, English Literature, English Language, and European History.
 Thesis: *A Comparative Textual Study of "The True Tragedie," "The Whole Contention," and the First Folio Edition of Shakespeare's "Henry VI, Part III."*
 B.A., Howard Payne College, 1916; M.A., Texas, 1919.
- James Wilson McCrary, Jr., Educational Administration, History of Education, and Social Psychology.
 Thesis: *The County Permanent School Fund in Texas.*
 B.A., M.A., Southern Methodist, 1927.
- Harlan Cross Miller, Point Set Theory and Foundations of Mathematics, Function Theory, and Differential Equations and Applications.
 Thesis: *On Compact Unicoherent Continua.*
 B.A., Wellesley College, 1916; M.A., Columbia, 1930.
- Herschel Kenworthy Mitchell, Organic Chemistry, Biochemistry, and Chemical Engineering.
 Thesis: *Application of Micro Methods to the Study of Yeast Growth Substances.*
 B.A., Pomona College, 1936; M.S., Oregon State College, 1938.
- Ward McKinnon Morton, Foreign Governments, American Government, and Latin-American History.
 Thesis: *Government Regulation of Labor in Mexico under the Constitution of 1917.*
 B.A., Southwest Texas State Teachers College, 1929; M.A., Texas, 1934.
- Joseph Milton Nance, American History, European History, and Government.
 Thesis: *The Attitude of New England toward Westward Expansion, 1800-50.*
 B.A., Texas, 1935; M.A., 1936.
- Gertrude Catherine Reese, English Literature, Germanic Languages, and Medieval and Renaissance History.
 Thesis: *Reflection of Political Thought in the Elizabethan Drama as Studied through the Subject of Kingship.*
 B.A., Baylor, 1930; M.A., 1935.
- Chessie Elmer Rehberg, Organic Chemistry, Chemical Engineering, and Physics.
 Thesis: *The Preparation and Properties of Phenacylcarbinamines.*
 B.S., Georgia State College for Men, 1933; M.S., Emory, 1937.
- Edgar Thomas Ruff, French Linguistics and Literature and Spanish Linguistics.
 Thesis: *The Suffix "-iste" in French.*
 B.A., Northwestern, 1930; M.A., 1931.
- Billie Shive, Organic Chemistry, Chemical Engineering, and Physical Chemistry.
 Thesis: *Naphthenic Materials in Petroleum.*
 B.A., East Texas State Teachers College, 1937; M.A., Texas, 1939.
- Virginia Bishop Sloan, Economic Theory, Agricultural Economics, and American History.
 Thesis: *Social Attitudes toward Poverty and Class Distinctions Implicit in Classical Economic Literature.*
 B.A., Texas, 1925; M.A., 1928.

Elmer Gillam Smith, Physics, Thermodynamics and Heat Transmission and Ventilation, and Applied Mathematics.

Thesis: *The Heat Requirements of Intermittently Heated Buildings.*

B.A., Amherst College, 1919; M.S., Agricultural and Mechanical College of Texas, 1925; B.S., 1934.

Raymond Clifford Smith, Experimental Physics, Theoretical Physics, and Applied Mathematics.

Thesis: *Relative Atomic Stopping Powers of Elements of Low Atomic Number.*

B.S., Texas Christian, 1927; M.S., 1929.

Robert Henry Sorgenfrey, Point Set Theory, Function Theory, and Differential Equations and Applications.

Thesis: *Concerning Triodic Continua.*

B.A., California, 1937.

Robert James Speer, Organic Chemistry, Physical Chemistry, and Bacteriology.

Thesis: *Part I. The Preparation of Certain 5-[Alpha-(Secondary-Butoxy) Ethyl]-5-Alkylhydantoins. Part II. The Identification of Aldehydes and Ketones through Conversion to the Corresponding 5- and 5,5-Substituted Hydantoins.*

B.A., North Texas State Teachers College, 1937; M.A., Texas, 1939.

John William Stormont, American History, Modern English and Continental European History, and American National Government.

Thesis: *The Economic Stake of the North in the Preservation of the Union in 1861.*

B.A., Austin College, 1928; M.A., Texas, 1936.

Robert Lomond Swain, Point Set Theory, Mathematical Analysis, and Differential Equations and Applications.

Thesis: *I. Proper and Reductive Transformations. II. Continua Obtained from Sequences of Simple Chains of Point Sets. III. Distance Axioms in Moore Spaces. IV. Linear Metric Space. V. A Space in Which There May Exist Uncountable Convergent Sequences of Points.*

B.A., Reed College, 1934.

Fladger Freeman Tannery, Business Administration (Accounting) and Administrative Government.

Thesis: *Accounting for State Governments.*

B.B.A., Texas, 1933; M.B.A., 1935.

George Wash, Organic Chemistry, Physical Chemistry, and Chemical Engineering.

Thesis: *Separation and Characterization of Acidic Constituents of Texas and California Petroleum; Studies in the Alkylation of 2-Methylcyclopentylphenyl Ketone.*

B.A., Texas, 1936; M.A., 1938.

Albert William Weeks, Stratigraphic Geology, Subsurface Geology and Micropaleontology, and Petroleum Engineering.

Thesis: *Late Cenozoic Deposits of the Texas Coastal Plain between the Brazos River and the Rio Grande.*

B.A., Wisconsin, 1923; M.A., 1924.

Robert Curtis Wilson, Organic Chemistry, Bacteriology, and Analytical Chemistry.

Thesis: *Researches on Ketones.*

B.A., North Texas State Teachers College, 1935; M.S., 1936.

Mrs. Mattie Lloyd Wooten, American History and Sociology, and History and Philosophy of Education.

Thesis: *The Status of Women in Texas.*

B.A., Texas, 1928; M.A., 1929.

Doctor of Education

William Rezin Skipping, Educational Administration, Curriculum and Instruction, and Educational Psychology.

Thesis: *Changing Concepts in the Supervision of Public School Instruction.*

B.A., Daniel Baker College, 1925; M.A., Colorado State College, 1931.

Master of Arts
(in Latin-American Studies)

Christina Cloe Christie, History, Geology, and Spanish.

Thesis: *The Jesuits in Brazil, 1549-1568.*

B.A., Baylor College, 1929.

Master of Arts

Roscoe Cullis Adkins, Government and History.

Thesis: *Recent Proposals for the Reform of Administrative Adjudication, 1929 to 1940.*

B.A., Southwest Texas State Teachers College, 1938.

William Archibald Betts, Education, Chemistry, and Zoology.

Thesis: *The Development and Evaluation of a Unit of Work in Ninth Grade Science in Which Extensive Use Was Made of the Community as a Source of Curricular Materials.*

B.A., Texas, 1936.

Maydelle Underwood Bishop, Zoology and Bacteriology.

Thesis: *The Recovery of Simple and Multiple Breaks of the X-Chromosome of Drosophila Melanogaster.*

B.S., College of Industrial Arts, 1935.

Billy Lloyd Bloodworth, Geology, Anthropology, and Petroleum Engineering.

Thesis: *Subsurface Correlations of Trinity and Upper Jurassic Formations of Parts of Arkansas, Louisiana, and Texas.*

B.S. in Geol., Texas, 1939.

Alvin Priestly Bradford, Philosophy, Anthropology, and Sociology.

Thesis: *An Approach to the Philosophy of Adjustment: A Consideration of Organic Categories and the Sociology of Knowledge with Reference to Correlativity as a Category of Integration.*

B.A., San Antonio, 1938.

John Edwin Bramlette, History and Government.

Thesis: *Railroad Development in Texas before 1861.*

B.A., Texas, 1940.

Elizabeth Bryarly, English and French.

Thesis: *Hardy's Use of Atmosphere.*

B.A., Baylor, 1926.

Stephen Edmund Clabaugh, Geology, Chemistry, and Petroleum Engineering.

Thesis: *Geology of the Northwestern Portion of the Cornudas Mountains, New Mexico.*
B.S. in Geol., Texas, 1940.

Roy Clendinning, Education and Sociology.

Thesis: *The Fourth Grade Activity Program for Trenton, Texas.*

B.A., Baylor, 1933.

William Johnson Conner, Pure Mathematics, Chemistry, and Chemical Engineering.

Thesis: *A Function Related to the Gamma Function.*

B.A., Texas College of Arts and Industries, 1932.

Louis H. Dixon, Geology and Petroleum Engineering.

Thesis: *Use of Aerial Photographs in Mapping the Geology of Gillespie County, Texas.*
B.S., Centenary College, 1935.

Edward Auld Dodson, Geology, Bacteriology, and Petroleum Engineering.

Thesis: *Geology of Camp San Saba-Ranch Branch Area, McCulloch and Mason Counties, Texas.*

Graduate, United States Military Academy, 1929.

Charles Lawrence DuBoise, Education and English.

Thesis: *A Study of Some Ill-Advised Acts of Teachers.*

B.A., Texas, 1929.

Frank Raymond Emmert, French, Spanish, and Education.

Thesis: *The Imperfect Subjunctive and the Past Definite in the French Prose Drama from 1827 to 1935.*

B.A., Texas, 1940.

- Beatriz Jáuregui Fernández, Spanish and Education.
 Thesis: *Carlos Loveira: Su Vida y Sus Obras.*
 B.A., Texas, 1935.
- Martha Louise Fisher, English and Education.
 Thesis: *Cleopatra in Three English Dramas.*
 B.A., Louisiana Polytechnic Institute, 1931.
- Eugene Oliver Forman, Chemistry and Education.
 Thesis: *The Synthesis of Isopropoxymethyl Alkyl Ketones and Their Conversion into Related Hydantoins and Cinchoninic Acids.*
 B.S., North Texas State Teachers College, 1933.
- Mrs. Geneva Thomson Foster, English, Education, and History.
 Thesis: *The Women Poets of the Restoration Period.*
 B.A., Our Lady of the Lake College, 1932.
- Eb Carl Girvin, Botany and Zoology.
 Thesis: *The Ecology of the Indian Reservation, Polk County, Texas.*
 B.A., Texas, 1940.
- Charles Allen Gregg, History, Economics, and Government.
 Thesis: *Some Indications of British Opinion of the Fascist Regime, 1922-1929.*
 B.A., Baylor, 1930.
- Rolf Karl Hagedorn, Latin and Greek.
 Thesis: *Fragments of the Early Roman Orators.*
 B.A., Northwestern College, 1935.
- Mrs. Mabel Lene Graves Hamman, Spanish, Education, and Sociology.
 Thesis: *Humor in the Novels of Armando Palacio Valdés.*
 B.A., Baylor, 1930.
- Clare Wesley Headington, Geology and Petroleum Engineering.
 Thesis: *The Coletto Creek Field, Victoria County, Texas.*
 B.S., Southern Methodist, 1938.
- Billie Ralph Hyer, Government, Economics, and Education.
 Thesis: *The James Wilson Theory of the Executive.*
 B.A., College of Industrial Arts, 1937.
- Eric Howard Jager, Geology and Petroleum Engineering.
 Thesis: *The Pre-Cretaceous Topography of the Western Edwards Plateau.*
 B.A., Harvard College, 1939.
- Louise Jarrell, English, Education, and History.
 Thesis: *The Austin Lyceum, 1839-1841.*
 B.A., Texas, 1930.
- Mrs. Natalie Werner Jones, Psychology and Education.
 Thesis: *A Statistical Study of Personal Values.*
 B.A., Texas, 1940.
- Clifford Stanley Knape, Government, Economics, and Business Administration.
 Thesis: *State Sovereignty: Theory, Fact, and Myth.*
- Cecil Martin Knowles, Chemistry and Bacteriology.
 Thesis: *The Reduction of Benzothiazoles and Benzoxazoles in Liquid Ammonia.*
 B.A., Mississippi College, 1939.
- Richard Newton Lane, Physics and Applied Mathematics.
 Thesis: *A New Method of Amplitude Measurement.*
 B.A., Texas, 1940.
- Billy Leslie, Chemistry, Bacteriology, and Chemical Engineering.
 Thesis: *The Ammonolysis of Benzil by Liquid Ammonia.*
 B.A., Texas, 1939.
- Louise Stoner Lewis, English, Education, and Sociology.
 Thesis: *Arthur Murphy, Dramatist.*
 B.A., Texas, 1926.
- Bert Wetzel Lindsay, Physics and Geology.
 Thesis: *Sound Field Measurements with the Rayleigh Disc.*
 B.A., The Rice Institute, 1938.

Edwin Palmer Lowe, Bacteriology, Botany, and Chemistry.

Thesis: *A Survey of Air-Borne Molds in Central and Southwestern United States.*
B.A., Baylor, 1935.

Allen Ellsworth Ludden, English and Drama.

Thesis: *The Dramatic Development of Robert Sherwood as Revealed in His First Eleven Plays.*
B.A., Texas, 1940.

Mrs. Velda Walker McKnight, English and Education.

Thesis: *Harriet Monroe's Contribution to Contemporary Poetry.*
B.A., Baylor, 1926.

Howard Nathan Martin, Education and History.

Thesis: *Predicting the Achievement of Men in Business Administration Courses at The University of Texas.*
B.B.A., Texas, 1939.

Wilton Curtis Mitchell, Education and Sociology.

Thesis: *An Educational Survey of Irion and Reagan Counties Public Schools with Recommendations for Reorganization.*
B.A., Stephen F. Austin State Teachers College, 1930.

Edwin Forrest Moore, Pure Mathematics, Applied Mathematics, and Education.

Thesis: *The Presentation of Certain Topics of Trigonometry to College Freshmen.*
B.A., Howard Payne College, 1938.

Leslie Grey Nunn, Jr., Chemistry and Chemical Engineering.

Thesis: *The Catalytic Oxidation of Phosphorus Tribromide.*
B.A., Texas, 1938.

Billie Rex Payne, Geology, Anthropology, and Petroleum Engineering.

Thesis: *A Check List of the Invertebrate Macro Fauna of the Lower Cretaceous of Texas.*
B.A., Texas, 1940.

Van Alvin Petty, Jr., Geology, Anthropology, and Petroleum Engineering.

Thesis: *Datum Planes Used in Reflection Seismograph Exploration.*
B.S. in Geol., Texas, 1940.

Mrs. Leoma Hutcheson Rasor, Education, English, and Library Science.

Thesis: *A Study of the Radio Listening Experiences of the Junior and Senior High School Students of South Texas.*
B.A., Texas, 1929.

Allen Lane Roberts, Government, Economics, and History.

Thesis: *The Federal Bureau of Investigation.*
B.A., Texas, 1940.

Mrs. Cleora Deitz Rohrbough, English and Drama.

Thesis: *Dramatizable Events in the Folk-Life of Early Texas.*
B.S. in Ed., Texas, 1938.

Mrs. Lillian Schiller St. Romain, History and English.

Thesis: *A History of Lott and Its Vicinity.*
B.A., Texas, 1933.

Billie Simmons, English, Education, and Spanish.

Thesis: *Archibald Macleish's Use of Source Material in "Conquistador."*
B.A., Texas, 1940.

Alice Valborg Slataper, Psychology, Philosophy, and Sociology.

Thesis: *A Study of Individual Differences in the Ability to Judge Human Nature.*
B.A., Texas, 1937.

Mrs. Aurora Maud Stanley, English and Drama.

Thesis: *Maxwell Anderson as a Historical Dramatist.*
B.A., Barnard College, 1930.

Margaret Ruth Studhalter, Spanish and History.

Thesis: *An Index of the Literary Material in "El Tiempo."*
B.A., Texas Technological College, 1939.

Martha Anne Swanson, English, Psychology, and Sociology.

Thesis: *Some Byron Family Letters.*
B.A., Texas, 1940.

Bert Clifford Timm, Geology, Anthropology, and Petroleum Engineering.

Thesis: *The Geology of the Southern Cornudas Mountains, Texas and New Mexico.*
B.A., North Dakota, 1939.

Bert Jane Turner, Botany and Geology.

Thesis: *The Ecology of the Vegetation of Greenland Township and Vicinity, Arkansas.*
B.A., Texas, 1940.

Richard Kent Waddell, Geology, Anthropology, and Petroleum Engineering.

Thesis: *Patoka Oil Field, Marion County, Illinois.*
B.S., Wichita, 1938.

Wahnez Walton, Geology and Petroleum Engineering.

Thesis: *Generic Descriptions and Suture Patterns of the Cretaceous Ammonites of Texas.*

Ralph Martin Whitmore, Pure Mathematics and Education.

Thesis: *The Cyclic Effects of the Spencer 21-Term Graduation Formula Applied to Random Data.*
B.A., San Antonio, 1938.

Pierce McDonald Williamson, Chemistry and Chemical Engineering.

Thesis: *Studies in Synthesis with Campholic Acid and a Modification of the Kuhn-Roth Method.*
B.A., The Rice Institute, 1929.

Mrs. Ellon Clifton Wimbish, English and Government.

Thesis: *William Butler Yeats: His Mind and Art.*
B.A., Mary Hardin-Baylor College, 1940.

Alfred Dexter Zapp, Geology, Chemistry, and Petroleum Engineering.

Thesis: *Geology of the Northeastern Cornudas Mountains, New Mexico.*
B.A., Texas, 1940.

Master in Business Administration

Daniel Edward Ansley, Jr., Business Administration.

Thesis: *Advanced Phases of Partnership Accounting.*
B.S., McMurry College, 1934.

George Washington Delavan, Jr., Business Administration.

Thesis: *A Study of the Uniform Small Loan Act and Its Possible Application in Texas.*
B.A., Texas, 1940.

Wade James Hartrick, Business Administration.

Thesis: *The Economic Analysis of the Clovis, New Mexico, Trade Area.*
B.A., Texas Technological College, 1929.

Leonard Reuben Hassell, Business Administration and Economics.

Thesis: *Accounting for Airports and Air Transport Companies.*
B.B.A., Texas, 1939.

Hubert Blackburn Jones, Business Administration and Education.

Thesis: *A Follow-Up Study of The University of Texas School of Business Administration Graduates, 1920-1939.*
B.A., B.B.A., Texas, 1920.

Rene Harry Levy, Business Administration and Government.

Thesis: *Public Utility Accounting As Influenced by the Federal Public Utility Holding Company Act.*

Tom Watson Nichols, Business Administration and Economics.

Thesis: *The Trucking of Livestock in the San Antonio Area.*
B.A., Southwest Texas State Teachers College, 1926; M.A., Louisiana State, 1931.

Stanley James Scott, Business Administration.

Thesis: *The Accounting for Material and Labor in Standard Costs.*
B.B.A., Texas, 1940.

Mrs. Sue Cunningham Williams, Business Administration and Education.

Thesis: *The Development of the Port of Houston.*

B.S., St. Mary's, 1939.

Carroll Oscar Wilson, Business Administration and Education.

Thesis: *Budgetary Control in the Public Schools of East Texas.*

B.B.A., Texas, 1931.

Master of Education

Truett Lamar Chance, Education and Government.

Thesis: *Relationship Existing between the City Government and the Public Schools of San Antonio, Texas.*

B.S., Southwest Texas State Teachers College, 1936.

Richard Maurice Cummins, Education and History.

Thesis: *A Study of Pupil Mobility Affecting Texas High School Seniors in the Rio Grande Valley.*

B.S., Southwest Texas State Teachers College, 1931.

Jessamon Dawe, Education and Business Administration.

Thesis: *A Pre-Vocational Course in Salesmanship for Texas High Schools.*

B.A., Texas, 1928.

Allan Rufus Day, Education and Sociology.

Thesis: *The Industrial Arts Program in Texas Schools, with Special Reference to Wichita Falls.*

B.A., East Texas State Teachers College, 1934.

Charles Frederick Mathews, Education and History.

Thesis: *An Administrative Survey of the Schools of Coleman County, Texas.*

B.A., Howard Payne College, 1936.

Albert Guy Moseley, Education and History.

Thesis: *A Study of the Extracurricular Activities in Ten Public Schools of Rusk County, Texas.*

B.S., Sam Houston State Teachers College, 1926.

Mrs. Beulah Williams Newlove, Education and Business Administration.

Thesis: *The Development of Accounting Theory Revealed in Textbooks on Book-keeping Published before 1918.*

B.B.A., Texas, 1937.

Willie Thomas Puryear, Education and History.

Thesis: *An Administrative Survey of Hunt County, Texas, Schools and a Proposed Plan of Reorganization.*

B.A., East Texas State Teachers College, 1937.

Mrs. Edna Porter Riley, Education and English.

Thesis: *Practices of Texas Elementary Schools in Promoting Pupils to High School.*

B.S. in Ed., Texas, 1932.

Johanna Caroline Walling, Education and History.

Thesis: *Early Education in Fayette County.*

B.A., Southwest Texas State Teachers College, 1930.

Joe Henry Ward, Education, Bacteriology, and Psychology.

Thesis: *A Cumulative Study of Age, Height, and Weight of High School Athletes.*

B.S. in P.E.D., Texas, 1936.

Aubrey Whittier Warford, Education, History, and Speech.

Thesis: *An Administrative Survey and Proposed Plan of Reorganization of the Schools in Llano County, Texas.*

B.S., Abilene Christian College, 1935.

Rebecca Mabel Woodson, Education and English.

Thesis: *Social Studies Content in Primary Readers Adopted in Texas since 1919.*

B.S., West Texas State Teachers College, 1934.

Master of Journalism

Ernest Alonzo Sharpe, Journalism, English, and Economics.

Thesis: *Dealey of Dallas.*

B.J., Texas, 1939; B.A., 1940.

Master of Science in Architectural Engineering

Worth Fancher Cottingham, Jr., Civil Engineering, Mechanical Engineering, and Economics.

Thesis: *The Settlements of a Building Foundation as Affected by Footing Sizes and by Load Redistribution.*

B.S. in Arch.E., Texas, 1932.

Master of Science in Chemical Engineering

Charles Raymond Everett, Chemical Engineering, Chemistry, and Applied Mathematics.

Thesis: *Relative Volatility of n-Heptane to Methyl Cyclohexane in Aniline at Sub-Atmospheric Pressures.*

B.S. in Ch.E., Texas, 1940.

John D. Haney, Chemical Engineering, Civil Engineering, and Electrical Engineering.

Thesis: *Critical Temperatures and Pressures of Ethanol-Water Mixtures.*

B.S. in Ch.E., Texas, 1938.

Everett James Hardgrave, Jr., Chemical Engineering and Chemistry.

Thesis: *Improvement of Texas Clay Materials: Development and Application of Differential Thermal Analysis.*

B.S. in Ch.E., Texas, 1939.

Charles Francis Van Berg, Chemical Engineering, Chemistry, and Applied Mathematics.

Thesis: *Vapor-Liquid Equilibrium of Aniline, Methyl-Cyclohexane, and n-Heptane Mixtures at Atmospheric Pressure.*

B.S. in Ch.E., Texas, 1939.

Master of Science in Civil Engineering

Wayne Henneberger, Civil Engineering, Economics, and Business Administration.

Thesis: *A Study of Reinforced Brick Masonry Made with Texas Materials.*

B.S. in C.E., Texas, 1940.

Master of Science in Electrical Engineering

Arthur Benjamin Chafetz, Electrical Engineering, Mechanical Engineering, and Applied Mathematics.

Thesis: *Some Research Studies in New Methods of Solutions to Engineering Problems.*

Master of Science in Mechanical Engineering

Alfred Day Payne, Mechanical Engineering and Business Administration.

Thesis: *A Preliminary Study of the Comparative Economies of Commercial Types of Steam Transmission Line Insulations under Actual Operating Conditions.*

Master of Science in Petroleum Engineering

James Ralph Coleman, Petroleum Engineering, Civil Engineering, and Geology.

Thesis: *Relation of Particle Size and Other Variables to Properties of Oil Well Cements.*

B.S. in P.P.E., Texas, 1935.

Glenn Lee Corrigan, Petroleum Engineering, Applied Mathematics, and Geology.

Thesis: *Effect of Bentonite on Set Volume and Permeability of Cement.*

B.S. in P.E., Texas, 1940.

Master of Science in Home Economics

Mrs. Jane Evelyn Sims, Home Economics, Education, and Business Administration.

Thesis: *A Study of the Availability of Fresh Fruits and Vegetables to the Institution-Buyers and Retailers of Fort Worth, Texas.*

B.S. in H.E., Texas, 1933.

SUMMER SESSION, 1941**August 25, 1941****Master of Arts**

(in Public Administration)

Sam Houston Field—Government and Business Administration.

Thesis: *The Law of Assessing Real Property for Ad Valorem Tax Purposes in Texas.*
B.A., Texas, 1937; B.B.A., LL.B., 1940.**Master of Arts**

Eloise Gladys Agnew—History and Government.

Thesis: *The Texas Collection in the Houston Public Library, 1791-1871.*
B.A., Southwest Texas State Teachers College, 1927.

Gwendalyn Elizabeth Allard—English, Education, and Spanish.

Thesis: *O. E. Rölvaag, Interpreter of the Middle West.*
B.A., East Texas State Teachers College, 1935.

Marshel Ashley—Education and History.

Thesis: *A Survey and Proposed Plan for the Reorganization of Schools of Kimble County, Texas.*
B.A., Texas, 1939.

Kenneth Ralph Bailey—Pure Mathematics, Education, and Applied Mathematics.

Thesis: *Some Practical Applications of Differential and Integral Calculus.*
B.A., Texas, 1937.

Marshall Durward Bailey—Education and Pure Mathematics.

Thesis: *An Experimental Evaluation of a Junior High School Mathematics Laboratory.*
B.A., Southwestern, 1937.

Mrs. Eleanor S. Bartlett—Education, English, and History.

Thesis: *The Social Studies Program in the Primary Grades of the San Antonio, Texas, Schools.*
B.A., Howard Payne College, 1925.

James Everett Beaver—Education and Spanish.

Thesis: *An Administrative Survey and Proposed Plan of Reorganization of the Schools of Jones County, Texas.*
B.A., Texas, 1934.

Louise Black—English, Education, and History.

Thesis: *A Study in Scott's Letters: An Examination of His Political, Social, and Religious Views.*
B.A., Texas, 1928.

Ruth Bolton Boger—English and History.

Thesis: *Joseph Conrad's Treatment of Nature.*
B.A., McMurry College, 1939.

Elizabeth M. Bonner—History and Education.

Thesis: *A Study of the Church of Christ in Texas.*
B.A., St. Mary's, 1931.

David Edward Botter, Jr.—Government, Economics, and Psychology.

Thesis: *Presidential Campaign of 1940.*
B.A., Texas, 1937.

Arthur Chesley Bowman—Economics, Education, and Business Administration.

Thesis: *A Study in the Relationships between Agricultural Welfare and the Farm Chemurgic Movement.*
B.A., Texas, 1935.

Bert Dayis Burnes—English and Education.

Thesis: *The Detective as a Hero in Fiction.*
B.A., Texas, 1934.

Mary Josephine Cannizzo—Spanish, French, and Italian.

Thesis: *Some Aspects of Lope de Vega's Adaptation of Boccaccio's Italian Stories.*
B.A., Texas, 1940.

Mrs. Dorothy Scarborough Carson—English and History.

Thesis: *Harvey Fergusson's Interpretation of Southwestern Characters.*
B.A., The Rice Institute, 1936.

Mary Virginia Carver—Education and History.

Thesis: *Plan of Instructional Supervision for Corpus Christi Junior High Schools.*
B.A., Mary Hardin-Baylor College, 1936.

Mrs. Marjorie Eda Rosen Chafetz—Spanish, English, and French.

Thesis: *Antonio Perez, el conocimiento de las naciones, discurso al Rey Phelipe 3º.*
B.S. in Ed., Texas, 1937.

Henry Neal Clarkson—Physics, Applied Mathematics, and Electrical Engineering.

Thesis: *Sub-Harmonic Distortion.*
B.A., Texas, 1939.

Thomas Ewell Collier—Education, Pure Mathematics, and Psychology.

Thesis: *A Study of the Testing Program in the Gladewater Junior High School.*
B.S., Abilene Christian College, 1937.

James William Collins—Government and History.

Thesis: *The Attitude of South America toward the Belligerency of the United States
in the First World War.*
B.A., Texas, 1938.

James Clark Culwell—Education and History.

Thesis: *An Administrative Survey and Proposed Plan of Reorganization for the Public
Schools of Coryell County, Texas.*
B.A., Southwestern, 1934.

Harriet Elaine Cunningham—English and Economics.

Thesis: *The Economic Ideas of the New England Transcendentalists.*
B.J., Texas, 1940.

Lucy Lee Dickson—History and Education.

Thesis: *Speculations of John Charles Beales in Texas Lands.*
B.A., Texas, 1938.

Ione Dodson—Spanish and English.

Thesis: *Women in the Novels of Vicente Blasco Ibáñez.*
B.A., Texas Technological College, 1933.

Charles Albert Dorris—Education and History.

Thesis: *Adjusting the Social Studies Curriculum to the Needs and Facilities of the
Deer Park, Texas, School and Community.*
B.S., Sam Houston State Teachers College, 1933.

Mrs. Evelyn Benson Downum—History and Education.

Thesis: *The Genesis of the Entente Cordiale.*
B.A., Illinois, 1937.

Clay Doyle—Education and English.

Thesis: *A Survey of Secondary-School Youth in Texarkana for Community Guidance
Purposes.*
B.S., Arkansas State Teachers College, 1928.

Escal Franklin Duke—History and Education.

Thesis: *The Life and Political Career of Fritz G. Lanham.*
B.A., Howard Payne College, 1929.

Mrs. Vida Hall Dunbar—English and Education.

Thesis: *Trends in American Fiction as Reflected in Best Sellers since 1900.*
B.A., Texas, 1924.

Mrs. Elizabeth Baines Elliott—English and History.

Thesis: *Rosalind, Hermione, Perdita, and Viola: A Study of Shakespeare's Character-
ization in the Light of His Sources.*
B.A., Sul Ross State Teachers College, 1936.

Mrs. Frances Jean Smith Elvins—Sociology and Education.

Thesis: *Listening to Radio: A Survey of Radio Listening Habits and Tastes of Three Groups of Adult Texans.*
B.B.A., Texas, 1937.

Kells Elvins—Psychology and Philosophy.

Thesis: *A Case Study of Forty-Four Incestuous White Fathers of Texas.*
B.A., Harvard College, 1935.

Leroy Glynn Emmons—Education, English, and Spanish.

Thesis: *An Administrative Survey and Proposed Plan of Reorganization of the Schools in Freestone County, Texas.*
B.S. in Ed., Texas, 1936.

Shirley Pritchard English—Sociology, Economics, and History.

Thesis: *Theories of Universal States.*
B.J., Texas, 1938.

Nellie Jean Evans—Education and English.

Thesis: *A History of Larissa College.*
B.A., Trinity, 1930.

Frank Florer Finney, Jr.—English and History.

Thesis: *Herman Melville's "Mardi": A Critical and Interpretative Study.*
B.A., Oklahoma, 1939.

Dora Francis Flack—Latin, Education, and English.

Thesis: *Nature in the "Aeneid."*
B.A., Texas, 1925.

Viola Marguerite Foerster—History, Education, and Spanish.

Thesis: *Hidalgo and the Mexican Revolution of 1810.*
B.A., Texas, 1934.

William Cicero Ford—Education and Psychology.

Thesis: *A Study of the Prediction of Achievement in English in the Senior High School.*
B.S., Houston, 1935.

Raymond Lee Givens—Education and History.

Thesis: *A Seventh Grade Social Studies Program for the North Crowley Elementary School.*
B.A., Southwestern Louisiana Institute, 1936.

Richard Cobb Givens—Chemistry and Physics.

Thesis: *The Isolation and Identification of Some Texas Petroleum Phenols.*
B.A., Southwestern Louisiana Institute, 1939.

Clara May Glenn—English, Education, and History.

Thesis: *Mary E. Wilkins Freeman as an Interpreter of New England.*
B.A., Baylor, 1923.

George Washington Graham, Jr.—Sociology and Psychology.

Thesis: *One Hundred Burglars and One Hundred Robbers.*
B.A., Texas, 1937.

Matt Noe Graham—Education, Government, and History.

Thesis: *An Evaluative Study of School Unit Reorganization and Transportation over a Seven-Year Period in Haskell County, Texas.*
B.A., Texas, 1932.

James Edward Greer—Zoology, Botany, and Bacteriology.

Thesis: *The Genetics of the Genus *Rattus* with a Bibliography of the Genetics of Laboratory Rodents.*
B.A., Agricultural and Mechanical College of Texas, 1937.

James Harvey Grisham—Government and History.

Thesis: *The Employer and Employee as Affected by the Interstate Commerce Clause.*
B.A., Texas, 1936.

Fermina Guerra—Spanish, Education, and English.

Thesis: *Mexican and Spanish Folklore and Incidents in Southwest Texas.*
B.A., Texas, 1938.

John Melvin Hansell—Education, History, and Psychology.

Thesis: *Tenure and Advancement of Urban and Rural Boy Scouts in the Alamo District of Texas.*
B.A., St. Mary's, 1936.

Mary Ethel Harkins—English, Education, and Sociology.

Thesis: *Hawthorne's Use of American Backgrounds in His Novels.*
B.A., Texas Christian, 1929.

Horace Virgil Harrison—History and Government.

Thesis: *The Washington Conference and the Far Eastern Question.*
B.A., Trinity, 1932.

Ruth Perla Harrison—Bacteriology, Botany, and Education.

Thesis: *The Staining Properties of Mycobacterium Tuberculosis.*
B.A., Texas, 1937.

Mildred Hawkes—English and Education.

Thesis: *Browning's Attitude toward Institutionalized Religion.*
B.A., Texas, 1940.

James Burney Haynes—Physics and Applied Mathematics.

Thesis: *A Thermal Noise Generator for Acoustical Measurements.*
B.S., Trinity, 1940.

Monroe Richard Henniger—Education and History.

Thesis: *George August Stierling, Early Educator and County Superintendent of Fayette County.*
B.S. in Ed., Texas, 1940.

Leon W. Hill—Economics, Education, and Government.

Thesis: *Tax Delinquency in the Southern Plains.*
B.S., New Mexico College of Agriculture and Mechanic Arts, 1934.

Lelia Leona Holcomb—Education, English, and Sociology.

Thesis: *A Study of Devices Used by High School Counselors.*
B.A., Trinity, 1933.

Charles Lee Hurley—English and Education.

Thesis: *Thomas Hardy's Dominant Tone of Sobriety as Revealed by an Analysis of His Works.*
B.A., St. Mary's, 1939.

Arthur Furman Isbell—Chemistry and Bacteriology.

Thesis: *Study of the Utilization of Isoamyl Alpha-Methoxyethyl Ketone in the Synthesis of Quinoline Derivatives by the Pfitzinger Method.*
B.A., Baylor, 1937.

Jule Marion Jacobson—Geology and Anthropology.

Thesis: *A Description of Some Sandstone Concretions from the Strawn Group, Lampasas County, Texas.*
B.A., Texas, 1940.

Alonzo Wesley Jamison, Jr.—Government and History.

Thesis: *Fair Comment and Criticism of Public Officials as a Defense to Civil Libel Actions in Texas.*
B.A., North Texas State Teachers College, 1939.

Floy Keeling—English, Education, and Spanish.

Thesis: *Mark Twain as a Literary Critic.*
B.A., Stephen F. Austin State Teachers College, 1933.

Mrs. Mary Frances DuBose Kennedy—Education, English, and Business Administration

Thesis: *An Analysis of Typewriting Textbooks Published since 1900.*
B.A., Southwest Texas State Teachers College, 1928.

Knox Kinard—History and Education.

Thesis: *A History of the Waggoner Ranch.*
B.A., West Texas State Teachers College, 1933.

Dot Lea—English, Education, and History.

Thesis: *Studies in the Diction of Milton's "Paradise Regained."*
B.A., Southwest Texas State Teachers College, 1927.

Margaret Erie Leslie—Zoology and Education.

Thesis: *The Application of a Microtechnique to the Problem of Water Absorption by Root Hairs.*
B.A., Texas, 1939.

Alice Place Levee—History, English, and French.

Thesis: *The Development of the Rice Industry in the Lake Charles District.*
B.A., Louisiana College, 1928.

Louise Loomis—Education and Chemistry.

Thesis: *A Follow-Up Survey of the Graduating Groups, 1930-1940, of the Sour Lake (Texas) High School.*
B.S., College of Industrial Arts, 1935.

Ellamay McClain—English and Education.

Thesis: *A Survey of the Use of Color in Walt Whitman's "Leaves of Grass."*
B.A., East Texas State Teachers College, 1935.

Ethel Pearl McCleskey—Education and Government.

Thesis: *A Study of the Relation of the New Stanford-Binet and the Kuhlmann Tests of Mental Development.*
B.S., North Texas State Teachers College, 1936.

Sister Elisa Maria McDade—Education, English, and Library Science.

Thesis: *A Survey of the Guidance Activities in the Catholic Secondary Schools of Texas.*
B.A., St. Mary's College, 1923.

Grace Eloise McDavid—English and Education.

Thesis: *The Structural Use of Comic Relief in the First Three of Hardy's Major Novels.*
B.A., College of Industrial Arts, 1926.

Martha Evelyn McGinty—History and Government.

Thesis: *The Deeds of the Franks on Their Pilgrimage to Jerusalem: A Translation of "Fulcheri Carnotensis Historia Hierosolymitana."*
B.A., The Rice Institute, 1930.

Mary Beth Malone—English, Education, and Psychology.

Thesis: *The Tristram and Iseult Legend in English and American Narrative Poetry.*
B.A., Mary Hardin-Baylor College, 1927.

Mrs. Edith King May—Pure Mathematics, Economics, and Education.

Thesis: *High School Mathematics for Vocational Students of Electricity.*
B.A., Texas, 1932.

John Brittan Means, Jr.—Geology, Anthropology, and Petroleum Engineering.

Thesis: *The Subsurface Geology and Oil Possibilities of the Love Ranch Area of Kerr and Real Counties, Texas.*
B.S. in Geol., Texas, 1940.

Allen David Miller—Government and Economics.

Thesis: *The Political Philosophy of Alexander Hamilton.*
B.A., Kansas, 1932.

Mrs. Eula Ekrath Connell Miller—Education and History.

Thesis: *A Study in Pleasure-Reading.*
B.A., East Texas State Teachers College, 1923.

Charles Clyde Mitchell, Sr.—Education, Economics, and English.

Thesis: *An Administrative Survey of Texarkana, Texas, Public Schools.*
B.A., Ouachita College, 1935.

Joe West Neal—Government, History, and Business Administration.

Thesis: *The Policy of the United States toward Immigration from Mexico.*
B.A., Texas, 1938.

Gale Harper Nelson—History and Anthropology.

Thesis: *The Political Activities of Duff Green during the Jackson Period.*
B.A., Texas, 1938.

Thomas Howard Newell—English and History.

Thesis: *Eugene Manlove Rhodes, a Biographical and Critical Study.*
B.A., West Texas State Teachers College, 1937.

- Archibald Balfour Patterson III—Geology, Botany, and Petroleum Engineering.
 Thesis: *Check List of the Most Characteristic Foraminifera of the Taylor Group of Travis County, Texas.*
 B.S., Southern Methodist, 1940.
- Mary Augustine Piercy—English, History, and Psychology.
 Thesis: *John Gould Fletcher.*
 B.A., Ouachita College, 1922.
- Mrs. Lola Ellison Pohler—English, Education, and History.
 Thesis: *Poe's Sense of His Own Worth: A Study of Pride and Humiliation.*
 B.A., Southwest Texas State Teachers College, 1926.
- Mamie Price—History and Government.
 Thesis: *Texas City—A Deep-Water Port.*
 B.A., West Texas State Teachers College, 1933.
- Bess Charleston Pruitt—Education, Government, and Spanish.
 Thesis: *The Supervision of High School Spanish Teaching.*
 B.A., Texas State College for Women, 1937.
- Firman Dewey Ray—Education, History, and Zoology.
 Thesis: *Administration of Visual Aids in the Edna, Texas, Schools.*
 B.A., Howard Payne College, 1928.
- Bernardine Rice—History, Economics, and Education.
 Thesis: *San Antonio, Its Early Beginnings and Its Development under the Republic.*
 B.A., Incarnate Word College, 1931.
- Nola Mae Rice—English and History.
 Thesis: *Concepts of Poetry during the English Romantic Period.*
 B.A., Southwest Texas State Teachers College, 1933.
- Rupert Norval Richardson, Jr.—English and History.
 Thesis: *Roark Bradford: An Analysis of His Works and Technique.*
 B.A., Hardin-Simmons, 1940.
- Darnell Higgins Roaten—French and Spanish.
 Thesis: *Classicism and Romanticism in the Works of Casimir Delavigne.*
 B.A., Central Oklahoma State Teachers College, 1939.
- Leonard John Rode—Bacteriology, Botany, and Zoology.
 Thesis: *Studies on Fat in Gram Positive, Spore-Forming, Aerobic Bacilli.*
 B.A., Texas, 1939.
- Katherine Rose—Education, Bacteriology, and Zoology.
 Thesis: *Motion Pictures versus Lantern Slides in Teaching Certain Units of Biology.*
 B.S., Texas Christian, 1934.
- Lucy Bertha Ruhmann—English, Education, and History.
 Thesis: *The Negro in the American Short Story, 1930-40.*
 B.A., Texas State College for Women, 1937.
- Joseph Harold Rush—Physics, Applied Mathematics, and Philosophy.
 Thesis: *A Study of the Spectra of Seven Early-Type Stars in the Region 3000-3300 Å.*
 B.A., Texas, 1940.
- Pilar Saenz—Education and Spanish.
 Thesis: *Learning Units in Secondary School Spanish: First Year.*
 B.A., Texas College of Arts and Industries, 1932.
- John Thomas Sanders—English, French, and Spanish.
 Thesis: *Musical Compositions Based on Shakespeare's "Romeo and Juliet," with Special Reference to Gounod's Opera.*
 B.A., Baylor, 1939.
- Roscoe Nelson Sandlin—Government, Education, and History.
 Thesis: *Federal-State Coöperation in Vocational Education in Texas.*
 B.A., Texas, 1923.
- Martin William Schwettmann—History and Education.
 Thesis: *The Discovery and Early Development of the Big Lake Oil Field.*
 B.A., Texas, 1938.

- John Shelton—English and Education.
 Thesis: *A Study of Maxwell Anderson's Conception of Tragedy.*
 B.A., Texas, 1937.
- Mary Elizabeth Shook—Government and Economics.
 Thesis: *The Constitutional Theories of Andrew Jackson.*
 B.A., Mississippi, 1937.
- William Francis Showers—Education and History.
 Thesis: *Insurance for Injuries Received in Athletics in Texas High Schools.*
 B.A., Abilene Christian College, 1935.
- Ray Small—English, Education, and History.
 Thesis: *Joseph Conrad's Use of Superstition and Tradition in Nine of His Novels.*
 B.A., West Texas State Teachers College, 1937.
- Perle Eugene Smith—Chemistry and Bacteriology.
 Thesis: *Preparation of Dithiohydantoins and Trithiobarbiturates.*
 B.A., Southwestern, 1936.
- Phyllis Mai Snyder—English and Government.
 Thesis: *A Revaluation of Pantisocracy.*
 B.S. in Ed., Millersville State Teachers College, 1940.
- Miriam Clare Spratt—Education and English.
 Thesis: *Uses of Rhythm in Education: Primitive and Modern.*
 B.A., College of St. Catherine, 1921.
- John Richard Stockton—Chemistry, Bacteriology, and Pharmacy.
 Thesis: *Some Naphthenic Sulfanilamides.*
 B.S. in Phar., Texas, 1938.
- Roy Wallace Stroud—Government and History.
 Thesis: *The Run-Off Primary.*
 B.A., Southwest Texas State Teachers College, 1940.
- Mrs. Anna Hall McDougall Terry—English, French, and Latin.
 Thesis: *A Study of French Criticism of Thomas Hardy in The University of Texas Library.*
 B.A., Agnes Scott College, 1923.
- Cora Lee Terry—Botany, Bacteriology, and Anthropology.
 Thesis: *Studies on the Resistance of Certain Plants to Phymatotrichum Root Rot.*
 B.A., Texas, 1939.
- Patrick Henry Tobin—English and Education.
 Thesis: *The Influence of Women on the Life and Thought of John Milton.*
 B.A., Colorado, 1935.
- Lewis David Todd—Education and History.
 Thesis: *A Proposed Guidance Program for the Overton High School.*
 B.A., Texas, 1930.
- Mrs. Clara Abbott Treadaway—Education, English, and Sociology.
 Thesis: *A Study of the Patriotic Content of Representative Readers on the Junior High School Level (1880-1940).*
 B.S., Texas College of Arts and Industries, 1939.
- Mrs. Janie May Smith VanDeventer—Education, English, and Pure Mathematics.
 Thesis: *Pupil-Analysis versus Teacher-Analysis of Pupil's Errors in Arithmetic.*
 B.A., Sam Houston State Teachers College, 1926.
- Albert Hodges Wadsworth, Jr.—Geology and Anthropology.
 Thesis: *The Lower Colorado River, Texas.*
 B.S. in Geol., Texas, 1941.
- Mrs. Ollie Pitts Walker—Education and Sociology.
 Thesis: *A Survey of Los Angeles Heights Public Schools, with a Review of The University of Texas Survey of 1930.*
 B.A., Baylor, 1922.
- Joe Vivian Walton—Spanish, English, and Education.
 Thesis: *Fables and Fabulists of Eighteenth-Century Spain.*
 B.A., Texas, 1935.

Margaret Effie Warren—Education and Psychology.

Thesis: *The Use of a Classroom Library in the Primary Grades.*
B.A., Baylor, 1924.

Mary Elizabeth Watts—English, Education, and French.

Thesis: *Two William Falkners: A Study in Contrasts.*
B.A., Texas, 1938.

Neta Pauline Weaver—History, Economics, and Sociology.

Thesis: *A History of the Farmers' Coöperative Demonstration Work in Texas.*
B.A., Texas, 1926.

Alvis Cleo Webb—Pure Mathematics, Education, and Philosophy.

Thesis: *An Examination of the Moving Twelve-Month Average of Price Indexes of Certain Commodities for Fictitious Cycles.*
B.A., Texas, 1937.

Elizabeth Victoria Westrup—English, Education, and History.

Thesis: *A Study of the Characters in Robert Frost's Narrative Poems.*
B.A., Our Lady of the Lake College, 1934.

Robert Gregg Wilfong—Government, Economics, and Business Administration.

Thesis: *The Work of Dr. Fridtjof Nansen as High Commissioner of the League of Nations.*
B.A., Texas, 1939.

Nell Dean Wright—English and Education.

Thesis: *Wordsworth in America: A Bibliographical Study.*
B.A., Trinity, 1937.

Master in Business Administration

Hubert Ross Breuninger—Business Administration.

Thesis: *A Case Study in Estate Accounting.*
B.S., Kansas State College of Agriculture and Applied Science, 1939.

Maude Lucienne Cuenod—Business Administration.

Thesis: *Building a Course in Office Practice.*
B.A., Baylor, 1926.

Keith Davis—Business Administration, Education, and Psychology.

Thesis: *Work Scheduling of Employees in Production Management.*
B.B.A., Texas, 1939.

Paul Alvin Fankhauser—Business Administration.

Thesis: *Depletion of Oil and Gas Properties for Federal Income Taxation.*
B.B.A., Texas, 1940.

Raymond Edward Manning—Business Administration and Education.

Thesis: *Incidence of the Federal Wage and Hour Law on the Victoria Bank and Trust Company.*
B.B.A., Texas College of Arts and Industries, 1931.

Clair Evelyn Maricle—Business Administration and Education.

Thesis: *A Survey of Personnel Work in Texas Business Concerns.*
B.B.A., Texas, 1932.

Orlando Pendleton Thomas—Business Administration.

Thesis: *A Statistical Study of the Factors Affecting the Demand for Fuel Oil with Special Emphasis on Price.*
B.S., East Texas State Teachers College, 1935.

James R. Wiley—Business Administration.

Thesis: *A Study of the Annual Reports of Industrial Corporations to Their Stockholders.*
B.B.A., Texas 1936.

William Maurice Young—Business Administration and Education.

Thesis: *The Loss Experience of the Federal Deposit Insurance Corporation in Insured State Banks in Texas.*
B.S., Pennsylvania, 1933.

Master of Education

Graydon Lamar Ausmus—Education and Speech.

Thesis: *A Proposed Program of Speech Correction for the Fort Worth Public Schools*.
B.A., Texas Technological College, 1932.

Margaret Baskin—Education, History, and Music.

Thesis: *Legends, Stories and Patter concerning Games and Dances*.
B.A., Texas Technological College, 1930.

Robert Melvin Beaver—Education and Business Administration.

Thesis: *The Present Status of the Office Practice Course in the Secondary Schools of Texas*.

B.A., Texas Christian, 1932.

Alan Parker Bloebaum—Education and English.

Thesis: *A Study of the Scholastic Census with Special Reference to Texas*.
B.S. in P.Ed., Texas, 1935.

Nora Lee Brown—Education and English.

Thesis: *A Documentary History of North Texas State Teachers College*.
B.S., North Texas State Teachers College, 1920.

Ouida C. Buzbee—Education, English, and Art.

Thesis: *A Comparison of the Quality of the Handwriting of Teachers and Pupils in Grades Three to Six*.

B.S., West Texas State Teachers College, 1936.

Marlan Hall Cade—Education, English, and Sociology.

Thesis: *An Analytical Study of the Materials and Methods in Five High-School Chemistry Textbooks*.

B.S., Sam Houston State Teachers College, 1934.

Charles Allen Cate—Education and Business Administration.

Thesis: *An Evaluation of the Use of Visual Aids in the Teaching of Biology*.
B.A., East Texas State Teachers College, 1934.

Bernice Maxine Cowzar—Education and Speech.

Thesis: *A Study of the Classroom Use of Radio to Stimulate Reading*.

Mrs. Alma Smith Daniel—Education and History.

Thesis: *A Study of the Knowledge of Students in Selected Texas High Schools Regarding Factors of Sex Education*.

B.S., Sam Houston State Teachers College, 1936.

Ross Clinton Dawkins—Education and Business Administration.

Thesis: *A Comparison of Per-Capita Costs of and Ability to Support Schools, in Texas Cities of More Than 2500 Population, 1933-1934 and 1934-1935*.

B.A., Abilene Christian College, 1928.

William Eilers, Jr.—Education and History.

Thesis: *Administrative Survey and a Proposed Plan of Reorganization for the Schools in Lampasas County, Texas*.
B.S. in Ed., Texas, 1937.

William James Everitt—Education and History.

Thesis: *A Survey of the Duties of the High School Principal in the Alamo District of the Texas State Teachers Association*.
B.A., St. Mary's, 1932.

Virgil Willie Ferguson—Education, Government, and Zoology.

Thesis: *A Survey of the Recreation Interests of Adults in Beaumont, Texas*.
B.S. in Ed., Nebraska, 1935.

Vada Lee Floyd—Education, Sociology, and Zoology.

Thesis: *Community Use of a Playground*.
B.A., Howard Payne College, 1928.

Paul Berthold Forgy—Education, English, and Music.

Thesis: *A Study of High School Bands in South Texas in Relation to Curriculum Development*.

B.S. in Ed., Texas College of Arts and Industries, 1932.

Fred Shelton Gardner—Education and Business Administration.

Thesis: *Budgetary Procedure in Sixteen Texas Public School Systems.*
B.S., Southwest Texas State Teachers College, 1927; B.B.A., Texas, 1937.

George Dewey Guy—Education and History.

Thesis: *Basic Records Needed for Child Accounting in a High School.*
B.S., Stephen F. Austin State Teachers College, 1932.

Robert Lynn Hamlin—Education and English.

Thesis: *A Survey of the Elementary School Failures in the San Benito, Texas, Public Schools.*
B.A., North Texas State Teachers College, 1938.

Fred E. Kay—Education and History.

Thesis: *A Study of the Organization and Administration of Visual Aids in the Schools of the Lower Rio Grande Valley.*
B.S., Southwest Texas State Teachers College, 1935.

James Frank Keeling—Education, Government, and History.

Thesis: *An Administrative Survey of the Schools of Panola County, Texas.*
B.S., Stephen F. Austin State Teachers College, 1934.

Marvin Spruce Keen—Education, Government, and Zoology.

Thesis: *A Comparative Study of the Motor Ability of Latin-American and Anglo-American Boys.*
B.A., Southwestern, 1934.

Vernon Victor La Bauve—Education and Business Administration.

Thesis: *An Analysis and Tentative Solution of Several Problems in the Organization of a Program of Business Administration in the Small High School.*
B.S., Southwest Texas State Teachers College, 1934.

Margaret Mary McMillan—Education and Psychology.

Thesis: *The Work of Officers of Student Organizations for Women at The University of Texas.*
B.A., Southwestern Louisiana Institute, 1940.

Albert Boynton Martin—Education, History, and Speech.

Thesis: *An Administrative Survey and Proposed Plan of Reorganization of the Schools of Starr County, Texas.*
B.A., Southwest Texas State Teachers College, 1934.

Robert Harrold Mayfield—Education and Government.

Thesis: *A Description of the School Program in Weimar, Texas, 1938-1941.*
B.S. in Ed., Texas, 1934.

Jack A. Mitchell—Education and Business Administration.

Thesis: *The Organization, Administrative Uses, and Guidance Functions of the Home Room in Selected Texas High Schools.*
B.S., North Texas State Teachers College, 1937.

Dorothy Virginia Noll—Education, English, Psychology, and Sociology.

Thesis: *A Study of the Reliability of Tests Constructed to Measure Achievement in Modern Dancing.*
B.S. in Ed., Kansas State College of Emporia, 1937.

James Thomas Ogg—Education and Government.

Thesis: *The Development of a Proposed Salary Schedule for Classroom Teachers in Goose Creek, Texas.*
B.S., Stephen F. Austin State Teachers College, 1937.

Bruce Merdith Parnell—Education and Government.

Thesis: *A Survey of the Civic and Social Agencies of Wichita Falls, Texas, That Are Coöoperating in the Character-Development of the Juveniles.*
B.A., North Texas State Teachers College, 1934.

Mrs. Edna Tidmore Payne—Education, English, and History.

Thesis: *A Study in Choral Reading.*
B.S., East Texas State Teachers College, 1933.

Elsa Louise Pirie—Education and German.

Thesis: *A History of the Junior Colleges in Illinois.*
B.S. in Ed., De Paul, 1939.

- Daniel Joseph Pollock—Education, Psychology, and Zoology.
 Thesis: *A Study in the Measurement of Information on the Rules of Football.*
 B.A., St. Edward's, 1936.
- Don Charles Pritchard—Education, History, and Zoology.
 Thesis: *An Evaluation of Organization and Administration in Health and Physical Education in the Secondary Schools of St. Louis County, Missouri.*
 B.A., Southeast Missouri State Teachers College, 1935.
- Mrs. Virginia E. Rodgers—Education and Home Economics.
 Thesis: *A Survey of Presbyterian Education in Texas.*
 B.S., Stephen F. Austin State Teachers College, 1936.
- Betty Love Rugeley—Education, Bacteriology, and Zoology.
 Thesis: *Evaluation of State Courses of Study for Health Instruction for Elementary Grades.*
 B.S. in P.Ed., Texas, 1935.
- Gladys Lucille Sands—Education, Journalism, and Speech.
 Thesis: *The Use of Problem-Centered Activities in a High School Speech Class.*
 B.A., Baylor, 1927.
- Aubrey Willis Shannon—Education and History.
 Thesis: *Philosophy and Method of Transition from Eleven-Grade to Twelve-Grade System in the Public Schools of Texas.*
 B.S., North Texas State Teachers College, 1937.
- Charles Ethelbert Smith—Education and Economics.
 Thesis: *A Study of School Finances in the Common School Districts of Navarro County, Texas, 1939-1940.*
 B.S., North Texas State Teachers College, 1934.
- Robert Edward Stafford—Education, Economics, and Government.
 Thesis: *An Evaluation of Kenedy, Texas, Public Schools.*
 B.A., Howard Payne College, 1929.
- Frank Jones Turner—Education, Business Administration, and Government.
 Thesis: *A Comparative Study of Public School Expenditures in the Independent School Districts of Falls County, Texas.*
 B.B.A., Texas, 1933.
- Mrs. Margaret Kessler Walraven—Education, English, and Library Science.
 Thesis: *Library Guidance for Teachers.*
 B.S., Texas State College for Women, 1935.
- Joel Henderson Ward—Education and History.
 Thesis: *A Study of Failures in Social Science in Rusk, Jacksonville, and Alto High Schools.*
 B.S., Stephen F. Austin State Teachers College, 1936.
- Mrs. Cecilia Terrell Williams—Education, Psychology, and Sociology.
 Thesis: *An Evaluative Study of Child Health Conferences in Austin, Texas.*
 B.S. in P.Ed., Texas, 1937.
- Cleo Bolin Williams—Education and Pure Mathematics.
 Thesis: *A Survey of the Extra-Curricular Activities in the Public Schools of Ellis County, Texas.*
 B.S., North Texas State Teachers College, 1930.
- Dave William Williamson—Education and History.
 Thesis: *An Administrative Survey and Proposed Plan of Reorganization for the Public Schools of Schleicher County, Texas.*
 B.S., Agricultural and Mechanical College of Texas, 1926.
- Estelle Wood—Education and Zoology.
 Thesis: *A Study of Remedial Reading in the Junior High School.*
 B.S., College of Industrial Arts, 1923.

Master of Science in Chemical Engineering

- William Hamilton Callaway—Chemical Engineering, Chemistry, and Applied Mathematics.
 Thesis: *Properties of Solvents Usable for the Extraction of Acetylene from Gaseous Mixtures.*
 B.S. in Ch.E., Texas, 1940.
- Francis Edgar Lewis—Chemical Engineering, Applied Mathematics, and Physics.
 Thesis: *Enthalpy Effects in Fractional Distillation of Binary Mixtures.*
 B.S. in Ch.E., Texas, 1940.
- Roy Thomas McCutchan—Chemical Engineering, Chemistry, and Applied Mathematics.
 Thesis: *Purification of Texas Glass Sand.*
 B.S. in Ch.E., Texas, 1940.
- William Walter McLean—Chemical Engineering and Chemistry.
 Thesis: *Texas White Firing Volcanic Ash as a White Ware Body Ingredient.*
 B.S. in Ch.E., Texas, 1940.
- James William Morris—Chemical Engineering, Chemistry, and Applied Mathematics.
 Thesis: *Development of Screen-Plate Fractionating Columns for Laboratory Use.*
 B.S. in Ch.E., Texas, 1940.
- William Barnes Riley—Chemical Engineering, Petroleum Engineering, and Bacteriology.
 Thesis: *Photomicrographic Studies of Corrosion.*
 B.S. in Ch.E., Texas, 1939.
- Max Samfield—Chemical Engineering, Petroleum Engineering, and Applied Mathematics.
 Thesis: *Optimum Temperatures and Pressures for Cracking Various Petroleum Fractions.*
 B.S. in Ch.E., The Rice Institute, 1940.
- John Larken Weeks—Chemical Engineering and Chemistry.
 Thesis: *Effect of the Direct Current Arc on Methane at Atmospheric Pressure.*
 B.S. in Ch.E., Texas, 1938.

Master of Science in Civil Engineering

- Hans Wilhelm Vogel—Civil Engineering, Mechanical Engineering, and Applied Mathematics.
 Thesis: *A Comparison of Bond Strengths between Concrete and Steel as Determined by Pull-Out and Push-Out Tests.*
 B.S. in C.E., Texas, 1940.

Master of Science in Petroleum Engineering

- Gordon Henderson Fisher—Petroleum Engineering and Geology.
 Thesis: *Processing of Crude Oil and Natural Gas and Its Relation to Petroleum Production Technology.*
 B.S. in P.P.E., Texas, 1938.
- Resit Yonca Ahmet Kenan—Petroleum Engineering, Applied Mathematics, Physics, and Mechanical Engineering.
 Thesis: *The Mathematical Analysis of the Flow of Compressible Fluids through Porous Media, and the Application to the East Texas Field Pressure Decline.*
 B.S. in P.E., Texas, 1940.
- Samuel Curtis Oliphant—Petroleum Engineering and Chemistry.
 Thesis: *Relations of Size and Distribution of Particles to the Properties of a Gulf Coast Drilling Mud.*
 B.S. in P.P.E., Texas, 1938.
- Joseph Brewer Plaza—Petroleum Engineering, Applied Mathematics, and Chemistry.
 Thesis: *A Study of Hydration-Pressure Phenomena in Bentonitic Materials.*
 B.S. in P.P.E., Texas, 1938.
- Roy Lamar Rather—Petroleum Engineering, Chemistry, and Geology.
 Thesis: *An Engineering Time Analysis of Drilling Rig Operations Performed While Drilling Wells of Varying Diameters.*
 B.S. in M.E., Texas, 1937.

Barnaby Ledyard Towle—Petroleum Engineering and Geology.

Thesis: *A Method for Studying Hydration-Pressure Phenomena in Bentonitic Materials.*
B.S. in Ch.E., Texas, 1939.

Turgut Ulug—Petroleum Engineering, Chemistry, and Geology.

Thesis: *The Effects of Weighting Materials on the Viscosity and the Filtration Properties of Drilling Fluids.*
B.S. in P.E., Texas, 1940.

Master of Science in Home Economics

Mrs. Fay Wright Anthis—Home Economics and Education.

Thesis: *A Comparative Study of the Retail Market Prices of Quick-Frozen, Canned, and Fresh Fruits and Vegetables in Muskogee, Oklahoma, from June, 1940, to May, 1941.*

B.S. in H.E., Kansas State Agricultural College, 1917.

Ilene Brown—Home Economics, Economics, and Education.

Thesis: *A Study of a Low-Cost Diet Used by Five Austin Families for One Week.*
B.S. in H.E., Texas, 1936.

Mary Demmler Stockton—Home Economics and Business Administration.

Thesis: *A Compilation of Tables for Use in Food Cost Determinations.*
B.S., Pennsylvania State College, 1937.

LONG SESSION, 1941-1942

June 1, 1942

Doctor of Philosophy

David Andres—Chemical Engineering, Chemistry, and Applied Mathematics.

Thesis: *Vapor-Liquid Equilibria—Methylcyclohexane-n-Heptane-Solvent.*
B.S. in Ch.E., Texas, 1937; M.S. in Ch.E., 1938.

John Julius Bieseile—Zoology (Cytology), Chemistry, and Botany.

Thesis: *The Karyology of Mouse Cancer.*
B.A., Texas, 1939.

Mrs. Thelma Anderson Bollman—Curriculum and Instruction, United States and South American History, and Educational Psychology.

Thesis: *Relation of College Entrance Requirements and the Secondary School Curriculum.*
B.A., Texas Wesleyan College, 1919; M.A., Columbia, 1920.

Leo Broussard—Experimental Physics, Theoretical Physics, and Applied Mathematics.

Thesis: *A Cloud Chamber Study of Cosmic-Ray Showers under Great Thicknesses of Lead.*

B.S., Southwestern Louisiana Institute, 1935; M.S., Louisiana State, 1939.

Alvah Penn Cagle—Government (Public Law), American Government and Politics, and Economics (Public Finance and Public Control of Business).

Thesis: *Judicial Construction and Reconstruction of the Due Process Clause.*
B.A., Baylor, 1922; LL.B., 1931; M.A., Iowa, 1926.

Laurie Timmons Callicutt—Educational Psychology, Curriculum and Instruction, and Spanish-American Literature.

Thesis: *The Construction and Evaluation of Parallel Tests of Reading in English and Spanish.*

B.A., Southwest Texas State Teachers College, 1928; M.A., Texas, 1934.

Joe Dennis—Biological Chemistry, Organic Chemistry, and Bacteriology.

Thesis: *A Comparison of the Sulfur Contents of Some Native and Denatured Proteins.*
B.A., Austin College, 1933; M.A., Texas, 1937.

Robert Edward Eakin—Bio-Organic Chemistry, Physical Chemistry, and Applied Mathematics.

Thesis: *The Concentration, Assay, and Properties of Avidin.*

B.S., Oregon State College, 1937; M.S., 1939.

Mrs. Pauline Fertsch Eatman—Experimental and Educational Psychology and General Psychology.

Thesis: *An Analytic Study of Braille Reading.*

B.A., Texas, 1931; M.A., 1932.

Raymond Estep—American History, Modern European History, and Government.

Thesis: *The Life of Lorenzo de Zavala.*

B.S., East Central (Oklahoma) State College, 1937; M.A., Oklahoma Agricultural and Mechanical College, 1938.

Truman Harrison Etheridge—History and Philosophy of Education, Philosophy, and Psychology.

Thesis: *Education in the Republic of Texas.*

B.A., Abilene Christian College, 1921; M.A., Texas Christian, 1924.

Frank Johnson Gardner—Geology, Petroleum Production Engineering, and Physical Anthropology.

Thesis: *A Correlation of Characteristics of the Oil Fields of North and North-Central Texas.*

B.A., Texas, 1936; M.A., 1938.

Donald Banks Gragg—Educational Psychology, Sociology (Personnel), and Curriculum and Instruction.

Thesis: *The Contribution of High-School Latin, French, and Spanish to English Vocabulary.*

B.A., Texas, 1928; M.A., 1932; B.S. in Ed., 1934.

Robert Carleton Hammock—Curriculum and Instruction, Educational Administration, and English.

Thesis: *Student Teaching in the Programs of Prospective Secondary-School Teachers in the United States.*

B.A., North Texas State Teachers College, 1928; M.A., Texas, 1935.

Leo Charles Hendricks—Geology (Stratigraphy and Paleontology) and Zoology.

Thesis: *Subdivision and Subsurface Correlation of the Ellenburger Group in North-Central Texas.*

B.S., Texas Christian, 1929; M.S., 1930.

William Ransom Hogan—American History, Modern European and English History, and Government.

Thesis: *A Social and Economic History of the Republic of Texas.*

B.A., Trinity, 1929; M.A., Texas, 1932.

Whilliam Eugene Hollon—Educational Administration, American History, and European History.

Thesis: *School Bus Transportation and Accounting in the Forty-Eight States.*

B.A., East Texas State Teachers College, 1934; M.A., Texas, 1937.

Harry Earle Jenkins—Educational Administration, Educational Psychology, and American History.

Thesis: *The Organization and Administration of Student Guidance and Personnel Service in Public Junior Colleges.*

B.S. in Ed., Kansas State Teachers College, 1924; M.A., Missouri, 1930.

Harry Alexander Kornberg—Bio-Organic Chemistry, Physical Chemistry, and Bacteriology.

Thesis: *The Concentration of a Nutrilite for Leuconostoc Mesenteroides.*

B.S., Illinois, 1938; M.S., State College of Washington, 1940.

Cyrus Wilson LaGrone—Educational Psychology, Psychology, and Sociology.

Thesis: *The Relationship of Peripheral Perception to Factors in Reading.*

B.A., East Texas State Teachers College, 1930; M.A., Texas, 1932.

James Samuel Lanham—Business Administration (Accounting) and Economics.

Thesis: *Accounting for Depreciation and Depletion in the Petroleum Industry.*

B.B.A., Texas, 1932; M.B.A., 1936.

Donald R. Larson—Government and Economics.

Thesis: *An Analysis of Presidential Use of the Veto Power, with a Comprehensive Digest of the Veto Messages.*

B.A., Augustana College, 1936; M.A., Texas, 1938.

- Dorothy Fowkes Lucker—English and American Literature, English and Germanic Language, and American History.
 Thesis: *The American Interest in European Democracy: A Study of the Literary Reaction to the Revolutions of 1848.*
 B.A., Texas, 1931; M.A., Columbia, 1937.
- Thomas Smith McCorkle—History and Philosophy of Education, Curriculum and Instruction, and Musicology and Music Education.
 Thesis: *Recent American Educational Theories on the Place and Function of the Fine Arts in the Public School Program.*
 B.Mus., Texas Wesleyan College, 1921; M.A., Southern Methodist, 1936.
- Mildred Louise McCracken—English Literature, Linguistics, and History of Philosophy.
 Thesis: *Henry Hills, Pirate Publisher: The Significance of His Pamphlets with a Bibliography.*
 B.A., Oklahoma College for Women, 1933; M.A., Oklahoma, 1934.
- George William McCulley—Business Administration (Banking and Finance) and Economics.
 Thesis: *Secondary Distribution of Securities.*
 B.A., Daniel Baker College, 1921; M.B.A., Texas, 1929.
- Gordon Beach Mainland—Zoology (Genetics), General Zoology, and Biochemistry.
 Thesis: *The Drosophila Macrospina Group.*
 B.A., Stanford, 1937; M.A., Hawaii, 1939.
- Mrs. Otha King Miles—Educational Administration, Educational Psychology, and Psychology.
 Thesis: *Adaptations of Educational Procedures Affecting Rural Curricula.*
 B.A., Centenary College, 1931; M.A., Texas, 1932.
- Jean DeCille Neal—Business Administration (Marketing) and Economics (History and Theory).
 Thesis: *A History of the Interterritorial Freight Rate Structures Affecting the Southwest.*
 B.S. in Ed., Southeast Missouri State Teachers College, 1925; M.B.A., Texas, 1937.
- William Oscar Ney, Jr.—Organic Chemistry, Chemical Engineering, and Bacteriology.
 Thesis: *The Separation and Identification of Acids from a California Straight-Run Gasoline.*
 B.S., Tennessee, 1938; M.A., Texas, 1940.
- Otto Richard Nielsen—Educational Psychology, Educational Administration, and Psychology.
 Thesis: *An Experimental Evaluation of Certain College Personnel Procedures.*
 B.A., Texas Christian, 1933; B.D., 1937; M.A., 1940.
- Mabel Parks—Botany (Morphology and Mycology) and Zoology (Embryology and Cytology).
 Thesis: *Cleistogamy and Comparative Morphology of Arachis Hypogaea and Galactia Canescens.*
 B.A., Texas, 1932; M.A., 1933.
- Andrew Patterson, Jr.—Physical Chemistry, Physics, and Chemical Engineering.
 Thesis: *The Molal Electrode Potentials of the Silver-Silver Chloride Electrode in Ethyl Alcohol-Water Solutions; the Ionization Constants of Propionic Acid in Methyl and Ethyl Alcohol-Water Solutions.*
 B.A., Texas, 1937; M.A., 1938.
- Derrol Elwood Pennington—Organic-Biochemistry, Physical Chemistry, and Bacteriology.
 Thesis: *The Nutritional Requirements of Spirillum serpens.*
 B.A., Reed College, 1938.
- Jennings Bland Pope—Business Administration (Accounting) and Economics.
 Thesis: *Evolution of the Systems of Accounts Prescribed for Public Utilities by State and Federal Regulatory Commissions.*
 B.B.A., Texas, 1935; M.B.A., 1936.
- Jim Eanes Reese—Economics (Social Control), Agricultural Economics, and Philosophy.
 Thesis: *The Economic Implications of the American Patent System.*
 B.A., Texas, 1933; M.A., 1935.

Leslie Millard Schenck—Organic Chemistry, Physical Chemistry, and Bacteriology.

Thesis: *Research on Nitrogen Bases from California Petroleum.*

B.A., Carthage College, 1937; M.A., Texas, 1939.

Peyton Clark Teague—Organic and Biochemistry, Physical Chemistry, and Bacteriology.

Thesis: *Pantothenic Acid and the Utilization of Glucose by Living and Cell-Free Systems.*

B.S., Alabama Polytechnic Institute, 1936; M.S., Pennsylvania State College, 1937.

Thomas Robert Thompson—Organic Chemistry, Biochemistry, and Bacteriology.

Thesis: *Part I—Preparation of Certain Alkoxyalkyl- and Aryl-Substituted Carbamines. Part II—Mesityl Oxide and Diacetone Alcohol in the Bucherer Synthesis of Hydantoins.*

B.S., Purdue, 1937; M.A., Temple, 1939.

Helen Tomlinson—Educational Psychology, Psychology, and Pure Mathematics.

Thesis: *An Analysis of the Performance of Negro Children on the Revised Stanford-Binet Tests.*

B.A., Wisconsin, 1921; M.A., Ohio State, 1927.

Ernest Wallace—American History, Modern European History, and Anthropology.

Thesis: *Charles Demorse: Pioneer Editor and Statesman.*

B.S., East Texas State Teachers College, 1932; M.A., Texas Technological College, 1935.

Linda Terry Wharton—Zoology (Genetics and Cytology) and Bacteriology.

Thesis: *The Repleta Group.*

B.A., Austin College, 1938.

Lisle Lorenzo Wheeler—Physics and Applied Mathematics.

Thesis: *Methods and Results of an X-Ray Study of Melt-Grown Potassium Chromate.*

B.A., Oklahoma Baptist, 1925; M.A., Texas, 1939.

Arthur George Wiederaenders—American History, Modern European History, and Government.

Thesis: *The American Frontier as a Factor in Protestant Denominationalism in the United States.*

B.A., Sul Ross State Teachers College, 1935; M.A., Texas, 1937.

Gail Sellers Young, Jr.—Pure Mathematics (Topology and Theory of Functions) and Applied Mathematics.

Thesis: *Concerning the Outer Boundaries of Certain Connected Domains.*

B.A., Texas, 1939.

Doctor of Education

Perry Morris Broom—Educational Psychology, Educational Administration, and History and Philosophy of Education.

Thesis: *An Interpretative Analysis of the Economic and Educational Status of Latin-Americans in Texas, with Emphasis upon the Basic Factors Underlying an Approach to an Improved Program of Occupational Guidance, Training, and Adjustment for Secondary Schools.*

B.S., Sam Houston State Teachers College, 1936; M.Ed., Texas, 1938.

Roger Andrew Burgess—Educational Administration, Curriculum and Instruction, and Educational Psychology.

Thesis: *An Evaluation of the Consolidation of Public Schools with Special Reference to the State of Texas.*

B.A., Texas, 1919; M.A., 1927.

Alexander Dickie—Educational Administration and Educational Psychology.

Thesis: *A Study of the Duties Performed by College Registrars.*

B.S., Agricultural and Mechanical College of Texas, 1916; M.S., 1935.

Floyd Emmett Farquear—Educational Administration, Educational Psychology, and Curriculum and Instruction.

Thesis: *The Administration of the Student Aid Program of the National Youth Administration in Institutions of Higher Learning in Mississippi.*

B.S. in Ed., Miami, 1920; M.A., Chicago, 1921.

- Clarence Edward McCarver—Educational Administration and Physical Education.
 Thesis: *An Analysis of the Duties Performed by Men Physical Education Teachers in Texas High Schools.*
 B.A., Howard Payne College, 1931; B.S. in P.Ed., M.A., George Washington, 1934.
- Wayland Pelton Moody—Educational Administration, History and Philosophy of Education, and Educational Psychology.
 Thesis: *The Financing of Public Junior Colleges in Texas.*
 B.A., Texas, 1923; M.A., Southern Methodist, 1930.
- Samuel Bliss Red—Educational Psychology, Curriculum and Instruction, and Educational Administration.
 Thesis: *A Factorial Study of Algebraic Abilities.*
 B.S., Sam Houston State Teachers College, 1923; M.A., Columbia, 1927.
- Loy Alonzo Singleton—Educational Administration, Curriculum and Instruction, and Educational Psychology.
 Thesis: *Measurement of the School Plants of Texas Accredited Public High Schools.*
 B.A., Howard Payne College, 1932; M.A., Baylor, 1940.
- William Eugene Ward—Curriculum and Instruction, Educational Psychology, and History and Philosophy of Education.
 Thesis: *Experimental Study of Two Methods of Teaching Chemistry in Senior High School.*
 B.S., Washington, 1926; M.A., 1930.

Master of Arts

- Ella Hannah Andres—Spanish and French.
 Thesis: *Some Spanish Writers of Alta Comedia.*
 B.A., Texas, 1927.
- Roland Krezdorn Blumberg—Physics and Mathematics.
 Thesis: *A Measurement of the Variation of Gravity with Respect to Time.*
 B.A., Texas, 1935; B.S. in P.E., 1939.
- Carolyn Louise Callaway—History and Anthropology.
 Thesis: *The "Runaway Scrape": An Episode of the Texas Revolution.*
 B.A., Texas, 1938.
- Gayle Posey Crawford—Geology, Anthropology, and Petroleum Engineering.
 Thesis: *Some Ostracode Species from the Lower Glen Rose Formation of Central Texas.*
 B.A., Southwestern, 1936; B.A., Texas, 1939.
- Charles Junior DeLancey—Geology, Physics, and Applied Mathematics.
 Thesis: *A Study of the Sands of Live Oak Bar from Baffins Bay to Matagorda Bay, Texas.*
 B.S. in Geol., Texas, 1940.
- Elder Pattison deTurk—Physics, Applied Mathematics, and Petroleum Engineering.
 Thesis: *A Study of Diffusion Pump Characteristics and High Vacuum Technique.*
 B.S. in P.E., Texas, 1939.
- Allen Early, Jr.—Economics, Government, and Philosophy.
 Thesis: *Two Problems Involved in Government Ownership of Wire Communications.*
 B.A., Vanderbilt, 1940.
- Nelle Trew Francis—English and Education.
 Thesis: *Sidney Howard, Playwright.*
 B.A., Hardin-Simmons, 1934.
- William Ramsay Gray—Anthropology and Geology.
 Thesis: *Archaeology of the Craig Rock Shelters, Upper Nueces Valley, Edwards County, Texas.*
 B.A., Texas, 1940.
- Edwin Hunter Herron—Education and Psychology.
 Thesis: *A Study of the Relationship between School Absences and School Marks in Fair Park High School, Shreveport, Louisiana.*
 B.S., Centenary College, 1929.

Roland Bell Holt—Chemistry, Applied Mathematics, and Physics.

Thesis: *Reactions of Nickel(II) Oxide, Mixed Oxides of Nickel, and Iron(III) Oxide in Liquid Ammonia.*

B.A., Texas, 1940.

*Forrest Gish Houston—Biological Chemistry, Bacteriology, and Physiology.

Thesis: *The Effects of Experimental Acidosis and Alkalosis on Blood and Urine Electrolytes.*

B.A., Texas Technological College, 1938.

Jack Thomas Hughes—Anthropology and Geology.

Thesis: *An Archaeological Report on the Harrell Site of North-Central Texas.*

B.A., Texas, 1941.

Richard Huff Hughes—Chemistry, Chemical Engineering, and Physics.

Thesis: *The Formal Oxidation-Reduction Potentials of Thallous-Thallic Salts in Aqueous Hydrochloric Acid Solutions.*

B.A., Colorado College, 1940.

Barbara Ketchum—English and Drama.

Thesis: *Actors in the Charleston Theatre, 1837-1861.*

B.A., Wellesley College, 1937.

Eldon Woodrow Langford—Geology and Petroleum Engineering.

Thesis: *Limestone Dikes in Sedimentary Serpentine of Southern Uvalde County, Texas.*

B.S., Houston, 1940.

Carl Varney Lieb—Geology and Anthropology.

Thesis: *Petroleum Production of the World Exclusive of Canada, United States, and Mexico.*

B.A., Texas, 1940.

John Henry McCammon II—Geology, Anthropology, and Business Administration.

Thesis: *The Problem of Petroleum Reserves in the United States.*

B.A., Texas, 1936.

Mrs. Hazel Thompson McCord—English and Education.

Thesis: *A Study of Contemporary English Life in Ten Dramas of Thomas Heywood.*
B.A., Texas Christian, 1939.

Mary Louise McDonald—History, English, and Government.

Thesis: *The History of Lubbock County, Texas.*

B.A., Texas Technological College, 1940.

Millard Holland Major—Geology and Petroleum Engineering.

Thesis: *Subsurface Geology of McCulloch County, Texas.*

B.S., North Texas State Teachers College, 1940.

Robert Warren Mathis—Geology, Chemistry, and Petroleum Engineering.

Thesis: *Heavy Minerals of Colorado River Terraces.*

B.A., Texas, 1941.

Charles Gardley Moon—Geology, Anthropology, and Petroleum Engineering.

Thesis: *A Study of the Igneous Rocks of Travis County, Texas.*

B.S. in Geol., Texas, 1940.

John Williamson Moore—Chemistry, Applied Mathematics, and Engineering.

Thesis: *A Kinetic Study of the Reaction between Tetravalent Cerium and Tervalent Arsenic.*

B.S. in Ch.E., Texas, 1941.

Tom Edwin Moore—Chemistry, Chemical Engineering, and Physics.

Thesis: *Reactions of Cobalt(II), Cobalt(III), and Iron(II) Oxides in Liquid Ammonia.*

B.A., Texas, 1940.

George David Overton, Jr.—Applied Mathematics and Physics.

Thesis: *Application of Complex Variable to Airfoil Theory.*

B.A., Texas, 1938.

Hazel Agnes Peterson—Geology, Botany, and Petroleum Engineering.

Thesis: *Interval Maps of Cretaceous Sediments of the United States.*

B.A., New York, 1939.

- Ruth de Lyon Pondrom—Government and Economics.
 Thesis: *Some Aspects of Interest Group Representation as Utilized by the Agricultural Adjustment Administration.*
 B.A., Texas, 1938.
- Mrs. James Eloise Cox Pope—History and Government.
 Thesis: *The Rapprochement of Bulgaria and Russia, 1896–1902.*
 B.A., Texas, 1929.
- David Brear Remick—Geology and Petroleum Engineering.
 Thesis: *A Study of the Producing Formations in the Oil Fields of the United States East of the Rocky Mountains.*
 B.A., Colgate, 1940.
- Margaret Jean Scales—Sociology, Government, and Philosophy.
 Thesis: *Shifts in Public Opinion on the War Issue.*
 B.A., Texas, 1940.
- Lillian Marie Seeliger—Zoology and Botany.
 Thesis: *Studies on the Velocity of Water Absorption in Local Root Regions in Relation to Transpiration.*
 B.A., Texas, 1938.
- Jewel Alta Shelton—English, Education, and Library Science.
 Thesis: *Literary Criticism in "Poetry: A Magazine of Verse."*
 B.A., Texas State College for Women, 1925.
- Mrs. Mary Elizabeth Ellis Simpson—English and Education.
 Thesis: *Some Unhappy Brother and Sister Relationships in Elizabethan and Jacobean Drama.*
 B.S. in Ed., Texas, 1937.
- Ardell Nichols Taylor—Zoology, Botany, and Chemistry.
 Thesis: *A Cytological Study of the Germinal Vesicle of the Toad, *Bufo valliceps*.*
 B.S., Texas Technological College, 1939.
- Roy Charles Thompson, Jr.—Chemistry, Bacteriology, and Physics.
 Thesis: *The Extraction of Biotin from Tissues.*
 B.A., Texas, 1940.
- Lucille Evelyn Treybig—Geology, Anthropology, and Petroleum Engineering.
 Thesis: *Subsurface Geology of the Luling Fault Zone.*
 B.A., Texas, 1941.
- Carlos Manuel Valdes Perez—Spanish and English.
 Thesis: *Las Ideas Filosóficas en las Novelas de A. Hernández Catá.*
 B.A., Texas, 1941.
- Kate Zachary—History, Education, and Government.
 Thesis: *The Highlanders of Western North Carolina and the Civil War.*
 B.A., Southwestern, 1938.

Master in Business Administration

- Sister Bernadette Marie Gremillion—Business Administration.
 Thesis: *A Practical Test of the Common Stock Theory of Investment.*
 B.A., Our Lady of the Lake College, 1935.
- Eunice Kitchell—Business Administration.
 Thesis: *Demand for and Price of Motor Fuel (United States).*
 B.A., Texas, 1935.

Master of Education

- Mrs. Clara Gene Mallow Cobb—Education and Sociology.
 Thesis: *A Study of Rural School Supervision in Texas.*
 B.S., East Texas State Teachers College, 1934.
- Gerald Ellison Thompson—Education and Business Administration.
 Thesis: *A Guidance Program for the Kermit, Texas, High School.*
 B.A., Trinity, 1932.

Darrel Daniel York—Education and Government.

Thesis: *Problems and Functions of Texas High-School Student Councils.*
B.S., Sul Ross State Teachers College, 1931.

Master of Science in Chemical Engineering

Marshall Lawrence Brown—Chemical Engineering, Civil Engineering, and Petroleum Engineering.

Thesis: *A Study of the Ninety-Six Hour Dehydration Test for Asphalt Emulsions.*
B.S. in Ch.E., Texas, 1935.

Kenneth Earl Draeger—Chemical Engineering and Chemistry.

Thesis: *Purification of Texas Feldspar.*
B.S. in Ch.E., Texas, 1941.

John Thomas Files—Chemical Engineering, Electrical Engineering, Petroleum Engineering, and Applied Mathematics.

Thesis: *Use of Synthetic Resins to Recover Magnesium Salts from Brines.*
B.S. in Ch.E., Texas, 1941.

Vernon Alfred Klein—Chemical Engineering, Chemistry, and Applied Mathematics.

Thesis: *Vapor-Liquid Equilibria of Benzene-Toluene and Ethanol-Water Systems at Elevated Temperatures and Pressures.*
B.S. in Ch.E., Texas, 1940.

Ruben Patton Lightfoot—Chemical Engineering, Civil Engineering, and Applied Mathematics.

Thesis: *The Solubility of Acetylene in Organic Solvents under Moderately High Pressures.*
B.S. in Ch.E., Texas, 1939; B.S. in P.E., 1940.

Melvin Alfred Nobles—Chemical Engineering and Chemistry.

Thesis: *The Development of Plasticity in Davis Mountain Kaolins.*
B.A., Abilene Christian College, 1938; B.S. in Ch.E., Texas Technological College, 1940.

Master of Science in Petroleum Engineering

Ali Hasan Dramali—Petroleum Engineering and Geology.

Thesis: *Oil-Field Emulsions.*
P.E., Colorado School of Mines, 1940.

William Martin Terry—Petroleum Engineering, Physics, and Geology.

Thesis: *The Natural Asphalts and Asphalt Rocks of Texas.*
B.S. in P.E., Texas, 1940.

Robert Louis Whiting—Petroleum Engineering, Mechanical Engineering, Applied Mathematics, and Chemistry.

Thesis: *The Effect of Chemicals, Temperature and Heat Treatment on the Physical Properties of a Gulf Coast Drilling Mud.*
B.S. in P.E., Texas, 1939.

Master of Science in Home Economics

Cleo Mae Arnett—Home Economics and Zoology.

Thesis: *The Use and Preparation of Pork Cuts as Used by Dining Halls, Lunch Rooms, Restaurants, and Cafeterias, with Particular Reference to: 1. The Effect of Cooking Method on the Cost of the Meat; 2. Pork in the Menu.*
B.S. in H.E., Texas, 1941.

Ruth Adele Koenig—Home Economics and Chemistry.

Thesis: *The Nutritive Value of Low-Cost Food Mixtures.*
B.S., Texas State College for Women, 1940.

SUMMER SESSION, 1942

August 24, 1942

Doctor of Philosophy

Samuel Abraham Corson—General Physiology and Biophysics, Mammalian and Human Physiology, and Bacteriology and Biochemistry.

Thesis: *A Micro-Tension Method for Measuring Instantaneous Permeability Changes in Single Cells under Reversible Conditions.*

B.S. in Ed., New York, 1930; M.S., Pennsylvania, 1931.

Willie Woodard Crouch—Organic Chemistry, Physical Chemistry, and Chemical Engineering.

Thesis: *Acidic and Basic Constituents of Petroleum.*

B.A., Texas Technological College, 1936; M.A., Texas, 1940.

Benjamin Peter Dailey—Physical Chemistry, Physics, and Applied Mathematics.

Thesis: *The Gaseous Heat Capacities of the Low-Molecular Weight Hydrocarbons.*

B.A., Southwest Texas State Teachers College, 1938; M.A., Texas, 1940.

Juan Villasana Haggard—American History, European History, and Spanish Literature.

Thesis: *The Neutral Ground between Louisiana and Texas, 1806–1821.*

B.A., Texas, 1930; M.A., 1932.

Mrs. Margaret Weaver Holt—General Physiology, Chemistry (Physical and Biochemistry), and Botany and Bacteriology.

Thesis: *A Quantitative Study of the Capacity of Living Membranes to Generate Electricity.*

B.A., Texas, 1938; M.A., 1940.

Joe Fred Lemons—Physical Chemistry, Physics, and Inorganic Chemistry.

Thesis: *The Heats of Vaporization of N-Hexane, 2,3-Dimethylbutane, and 2-Methylpentane.*

B.S., Texas Technological College, 1937; M.A., Texas, 1939.

Horace Wilson Little—Educational Administration, Curriculum and Instruction, and United States History.

Thesis: *The General Organization of Subject Matter and Instructional Materials for the Social Studies in the Elementary School.*

B.S., North Texas State Teachers College, 1931; M.Ed., Texas, 1938.

Auline Raymond Schrank—Physiology, Botany and Bacteriology, and Chemistry.

Thesis: *The Statics and Dynamics of the Electric Correlation Pattern in the Coleoptile of Avena Sativa.*

B.A., Southwest Texas State Teachers College, 1937.

Lewis Charles Sellers—Chemical Engineering and Applied Mathematics.

Thesis: *Development of a Process for Enhancing the Cohesiveness of Cotton Fibers.*

B.S. in Ch.E., Purdue, 1938; M.S. in Ch.E., Texas, 1940.

Edward Gustav Tonn—Chemical Engineering, Chemistry, and Applied Mathematics.

Thesis: *Development of a Process for the Solvent Extraction of Cotton.*

B.S. in Ch.E., Texas Technological College, 1939; M.S. in Ch.E., Texas, 1940.

W. H. Tonn, Jr.—Chemical Engineering, Chemistry, and Bacteriology.

Thesis: *The Technology of Cotton Wax.*

B.S. in Ch.E., Texas, 1939; M.S. in Ch.E., 1940.

Harold Haskell Webber—Botany (Genetics), Cytology, and Biochemistry.

Thesis: *Some Studies on the Inheritance of the Cottonseed Oil Character.*

B.A., Texas, 1939.

Doctor of Education

Samuel David Hendrix—Curriculum and Instruction, Educational Administration, and Educational Psychology.

Thesis: *The Educational Values of the National Youth Administration Work-Program in Texas.*

B.S. in Ed., Kansas State Teachers College, 1915; M.A., Columbia, 1925.

Master of Arts
(in Public Administration)

Lynn Foster Anderson—Government, Economics, and Business Administration.
Thesis: *Wartime Financial Administration in the City of Austin, Texas.*
B.A., Texas, 1941.

John Dean Moseley—Government, Economics, and Sociology.
Thesis: *The Administration of the Packers and Stockyards Act.*
B.S., East Texas State Teachers College, 1932.

Master of Arts

Sister María de la Paz Ambía—Spanish and French.
Thesis: *La obra poética de Alfonso Junco.*
B.A., Incarnate Word College, 1936.

Rual Askew, Jr.—English and Philosophy.
Thesis: *Poems (A Volume of Original Verse).*
B.A., Texas, 1941.

Flora Mayfield Betts—Zoology, Botany, and Bacteriology.
Thesis: *Formation and Function of the Tapetal Nuclei and Periplasmodium in Some of the Commelinaceae.*
B.S., Texas Technological College, 1940.

Jessie Beryl Boozer—History, English, and Education.
Thesis: *The History of Indianola, Texas.*
B.A., Sam Houston State Teachers College, 1932.

Ann Claire Brannen—English and History.
Thesis: *Hawthorne's Use of Contemporary Life in His Shorter Narratives.*
B.A., Texas, 1941.

Harold Clayton Brantley—Education and Sociology.
Thesis: *A Critical Analysis of Problems Relating to the Age of Entrance to the Public Schools.*
B.S., Southwest Texas State Teachers College, 1932.

Mary Josephine Brinkerhoff—Latin, English, and Education.
Thesis: *The Perorations of Cicero.*
B.A., Baylor, 1936.

Bernice Ross Brooks—Education and Sociology.
Thesis: *A Study of the Relation of the New Stanford-Binet and the Kuhlmann Tests of Mental Development.*
B.A., Texas, 1931.

Virginia Wilson Buckner—Economics and Philosophy.
Thesis: *The Quest for Certainty in Economics.*
B.A., Texas, 1941.

Lorene Elizabeth Butcher—English and Education.
Thesis: *Use of Phrenological Ideas in the Prose Fiction of William Gilmore Simms and Harriet Beecher Stowe.*
B.A., Texas, 1941.

Mrs. Electa Baker Butler—Education and History.
Thesis: *Commercial-Employment Opportunities for High-School Graduates in Willacy County, Texas.*
B.S. in Ed., Texas College of Arts and Industries, 1935.

Mrs. Marian Cullom Butler—Latin, English, and Education.
Thesis: *The Sea in Roman Poetry of the Republic and the Augustan Age.*
B.A., George Peabody College, 1905.

James Edward Caldwell—Pure Mathematics and Education.
Thesis: *A Workbook for Algebra II.*
B.A., East Texas State Teachers College, 1935.

Gladstone D. Calvert—Education, Government, and History.

Thesis: *A Study of the Radio Listening Experiences of the Junior and Senior High School Students of Northeast Texas.*

B.S., State Teachers College, Hattiesburg, Mississippi, 1935.

Mrs. Mildred Remy Carver—English and Education.

Thesis: *Gothic Traits in Robert Browning's Shorter Poems.*

B.A., Incarnate Word College, 1926.

Doris Clark—History, Economics, and Sociology.

Thesis: *Spanish Reaction to French Intrusion into Texas from Louisiana, 1754-1771.*
B.A., North Texas State Teachers College, 1930.

Vesta Cloud—Education, English, and Sociology.

Thesis: *A Program of Learning Experience in Language Arts for the Seventh Grade of Central Junior High School, Temple, Texas.*

B.S., Texas State College for Women, 1936.

Ruth Cole—Spanish and English.

Thesis: *The Works of Rómulo Gallegos.*

B.A., Daniel Baker College, 1928.

Paul Ross Culwell—Education and Pure Mathematics.

Thesis: *A Survey of the Financial Support of Negro Education in Three Counties of Texas.*

B.A., Southwestern, 1931.

Reba Louise Cummins—Education and English.

Thesis: *The Use of Visual Aids in the Teaching of Eighth Grade English.*

B.A., Texas College of Arts and Industries, 1936.

Mrs. Mauryne Phelps Dailey—Education and Spanish.

Thesis: *A Study of Achievement in Spanish in Relation to Intelligence and Other Traits.*

B.A., Texas, 1924.

Morris Judson Daniels—Economics and English.

Thesis: *The Yellow Dog Contract.*

B.A., Southern Methodist, 1941.

Mrs. Anna May Tarrence Davis—Botany, Chemistry, and Zoology.

Thesis: *A Study of Bosquejo de la Palma in Cameron County, Texas, and of Sabal Texana.*

B.A., Baylor, 1925.

Viva Maurine Dunbar—Education, English, and Sociology.

Thesis: *Some Attitudes and Ideals of Junior High School Students.*

B.A., North Texas State Teachers College, 1934.

Frances Pauline Dushek—Pure Mathematics and Education.

Thesis: *Enriching Plane Geometry with Historical and Biographical Data.*

B.A., Texas, 1939.

Alec Harris Edwards—Education, Economics, and Business Administration.

Thesis: *An Analysis of Teacher-Tenure Statutes According to Certain Suggested Tenure Principles.*

B.A., Howard Payne College, 1933.

Dorothy Margaret Forbis—English and Latin.

Thesis: *The Concept of "Realism" in the School of Howells: Critical Interpretation of the New Trend in American Fiction by Writers for the "Atlantic Monthly," 1866-1881.*

B.A., Texas Technological College, 1941.

Mrs. Augie Bridges Gaddis—Education, English, and Latin.

Thesis: *The Informal Essay as a Form of Creative Writing in the High School.*
B.S., George Peabody College, 1929.

Ida Gandler—Education and Latin.

Thesis: *The Development of the Division of Child Welfare in Texas.*

B.A., Texas, 1939.

- Hazel Aileen Gerland—Pure Mathematics and Psychology.
Thesis: *Tests for Randomness Applied to Tippett's Random Sampling Numbers.*
B.A., The Rice Institute, 1938.
- Barnett Morris Goodstein—Economics, Business Administration, and Government.
Thesis: *Sugar in Inter-American Trade.*
B.A., Texas, 1942.
- Daphrene Kathryn Gray—Zoology and Education.
Thesis: *Sexual Isolation in Drosophila melanica.*
B.A., Texas, 1941.
- Fritz Samuel Gustafson—Education, Chemistry, and Geology.
Thesis: *A Comparative Study of Physiology Textbooks with Special Reference to the Effects of Alcohol.*
B.S., Bethany College, 1920.
- Laura Elizabeth Hale—History and English.
Thesis: *The Groves and the Whartons in the Early History of Texas.*
B.S., Mississippi State College for Women, 1939.
- Lualma Hall—Education and Pure Mathematics.
Thesis: *An Analysis of Errors Made by High-School Pupils in the Four Fundamental Processes of Arithmetic.*
B.S., West Texas State Teachers College, 1930.
- Mary Louise Hamm—English and History.
Thesis: *The Ethical Bias of Matthew Arnold's View of Literature and of Criticism.*
B.A., West Texas State Teachers College, 1938.
- Anice Hayes—History, Education, and Government.
Thesis: *A History of Coleman County, Texas, in the World War, 1917-1919.*
B.S., North Texas State Teachers College, 1934.
- Albert Edward Hayward, Jr.—Bacteriology and Chemistry.
Thesis: *Some Physiological Factors in Spore Formation.*
B.A., Texas, 1941.
- Mrs. Mae Fivecoat Hiltz—English and Education.
Thesis: *An Interpretation of Melville's "Mardi."*
B.A., The Rice Institute, 1931.
- James Felter Hogg—Chemistry and Bacteriology.
Thesis: *A Study of Adsorption Interference.*
B.A., The Rice Institute, 1941.
- Mrs. Katheryn Allen Horn—English and History.
Thesis: *The Types of Characters in the Works of Willa Cather.*
B.A., Daniel Baker College, 1922.
- Byron Ossie Horton—Pure Mathematics, Economics, and Education.
Thesis: *Certain Estimates of the State's Liability in the Provisions of the Teacher Retirement System of Texas.*
B.A., Texas, 1935.
- Roberts Hudson—Spanish, Education, and History.
Thesis: *The Life and Works of José Cadalso.*
B.A., Southwest Texas State Teachers College, 1930.
- Thelma Lenore Insall—Education and Pure Mathematics.
Thesis: *A Study of the Student Handbook in Junior and Senior High Schools of Texas.*
B.A., Southwestern, 1931.
- Rosalie Ivey—History and Education.
Thesis: *A History of Fort Bliss.*
B.A., Baylor, 1929.
- Mrs. Jean Templin Joughin—History, English, and French.
Thesis: *Madame de Genlis: Her Life and Observations.*
B.A., Texas, 1941.
- Ingeborg Maximiliane Kaiser—Economics, Sociology, and History.
Thesis: *Some Population Factors in Economic Planning.*
B.A., Texas, 1940.

William Weldon Keefe—Education and Spanish.

Thesis: *An Administrative Survey and Reorganization Plan for the Schools of Cleburne County, Arkansas.*
B.A., Trinity, 1925.

Othell Franklin Langford—Geology and Petroleum Engineering.

Thesis: *Collapsed Caverns as Modifiers of Older Structures in the Vicinity of the Balcones Zone of Faults in Uvalde County, Texas.*
B.S., Houston, 1941.

Gertrude Luedemann—English and History.

Thesis: *The Narrative Technique of Ernest Hemingway.*
B.A., Southwest Texas State Teachers College, 1940.

James Iley McCord—Philosophy and Greek.

Thesis: *The Role of Ockhamism in the English Empirical Tradition.*
B.A., Austin College, 1938.

Ruth Maurine Martin—Education and Psychology.

Thesis: *Some Effects on Reading Performance of Different Colors of Printing.*
B.A., Texas, 1932.

Callie Faye Milliken—English and Library Science.

Thesis: *A Glossary of the Stanzaic "Sir Guy of Warwick" in the Auchinleck Manuscript.*
B.A., Abilene Christian College, 1938.

George Edwin Mize—English, Education, and French.

Thesis: *Three Georgian Poets on War.*
B.A., Texas, 1936.

Margaret Ruth Mood—Spanish and Education.

Thesis: *Juan Bautista Diamante, Pedro de Urdemalas.*
B.A., Texas, 1926.

Mrs. Allie Fish Nelson—Botany, Education, and Zoology.

Thesis: *The Vegetation of Galveston County.*
B.A., Texas, 1921.

Arne Bodholdt Nelson—Economics and History.

Thesis: *The Place of Conservation in a Program of Efficient Land Use.*
B.A., Texas, 1938.

Mary Louise Nelson—Government, Economics, and History.

Thesis: *The Constitutional Theories of Oliver Ellsworth.*
B.A., Texas, 1933.

Margaret Elizabeth Newton—English and Spanish.

Thesis: *The Texas Cowboy and the Argentine Gaucho in Literature, as Found in Andy Adams' Novels, Badger Clark's Poetry, Ricardo Guiraldes' "Don Segundo Sombra," and José Hernández' "Martín Fierro."*
B.A., Southern Methodist, 1939.

Hermelinda Ochoa—Education and Spanish.

Thesis: *Linguistic Errors Made by Spanish-Speaking Children in Written English.*
B.A., Texas, 1938.

Roger Cook Osborn—Pure Mathematics, Education, and Applied Mathematics.

Thesis: *Concerning Numerical Solutions of Differential Equations.*
B.A., Texas, 1940.

Olga Julia Pazdral—English and Education.

Thesis: *Czech Folklore in Texas.*
B.A., Baylor, 1930.

Mrs. Josephine Cochrum Peavy—History, English, and Spanish.

Thesis: *A History of Newton County, Texas.*
B.A., College of Industrial Arts, 1926.

Mary Nell Peters—English, Education, and Spanish.

Thesis: *The Old English "Advent (Christ I)": A Translation and Study.*
B.A., Baylor College, 1934.

Mrs. Margaret Ward Peterson—Education and History.

Thesis: *Curricular Preferences of Elementary School Children.*
B.A., Incarnate Word College, 1941.

Jewel Popham—Pure Mathematics and Education.

Thesis: *Enriching High-School Algebra with Historical and Biographical Materials.*
B.A., Texas, 1939.

Anthony Truman Pouncey—French and Italian.

Thesis: *Romanticism in the Plays of Jean Sarment.*
B.A., Texas, 1933.

Mrs. Inez Richards Praytor—English and Spanish.

Thesis: *Jim Thomas, Texan.*
B.S., Sam Houston State Teachers College, 1931.

Matilda Marie Real—History, Education, and Government.

Thesis: *A History of Kerr County, Texas.*
B.A., Texas, 1938.

Marguerite Meta Riedel—Botany, Education, and Zoology.

Thesis: *Vegetation in Western De Witt County.*
B.A., Texas, 1932.

Helen Margaret Robb—Education and English.

Thesis: *Poetry for Fifth Grade Children: Evaluations and Recommendations.*
B.A., Mary Hardin-Baylor College, 1935.

Mrs. Cora May Segura Savoy—Chemistry and Bacteriology.

Thesis: *Some Chloro-4-hydroxybiphenyls and Their Esters.*
B.S., Sophie Newcomb College, 1932.

Ida Frances Schlick—History and Education.

Thesis: *Newspaper Interest in Early Texas Education, 1813-1840.*
B.A., Texas, 1928.

Wilbur Garrison Seale—Education and Government.

Thesis: *A Study of the Accomplishments of Alice, Texas, High School Pupils as Influenced by Mobility, 1939-1940.*
B.S., Southwest Texas State Teachers College, 1934.

Leona Nympe Sealy—Education and English.

Thesis: *Texas Literature in Certain Selected Senior High Schools of the State.*
B.A., Southwestern, 1926.

Jack Wood Sears—Zoology and Botany.

Thesis: *The Structure of the Genome in the Drosophila melanica complex.*
B.S., Harding College, 1940.

Roy Clifford Shelton—Education, English, and Spanish.

Thesis: *An Educational Survey of a Portion of Williamson County, Texas.*
B.A., Texas, 1934.

Ola Lee Smith—Spanish, English, and Latin.

Thesis: *The Influence of Misiones on the Life and Works of Horacio Quiroga.*
B.A., Baylor, 1929.

Mrs. Violet West Sone—English, Education, and Library Science.

Thesis: *Live Oak Peninsula: A Book of Verse.*
B.A., West Texas State Teachers College, 1936.

Mrs. Sydney Scout Sørensen—Spanish, English, and Education.

Thesis: *Biblical and Religious Allusions in the Works of Armando Palacio Valdés.*
B.A., Incarnate Word College, 1935.

Mrs. Catherine Marshall Vineyard—English and Education.

Thesis: *The Arkansas Traveler.*
B.S., Southern Methodist, 1927.

Mrs. Marilynn Ann Zirkel Wacker—English, French, and Government.

Thesis: *A Study in the Speech of a Group of Freshmen in the University of San Antonio.*
B.A., San Antonio, 1937.

Sam Nail Webb—Geology, Anthropology, and Petroleum Engineering.

Thesis: *An Occurrence of Bentonite and Its Commercial Possibilities in Houston County, Texas.*
B.A., Texas, 1938.

Nathaniel Hawthorne Williams—Education and Economics.

Thesis: *A Study of the Preparation of Texas School Superintendents for the Business Management Responsibilities of Their Positions.*
B.A., Simmons, 1924.

Dale Brown Woods—Government and Education.

Thesis: *The Poll Tax as a Voting Prerequisite.*
B.A., Arkansas, 1927.

Fred Thomas Wooten, Jr.—History, Education, and Government.

Thesis: *Religious Activities in Civil War Memphis.*
B.S., State Teachers College, Memphis, Tennessee, 1937.

Christopher LaFayette York—Botany, Bacteriology, and Education.

Thesis: *The Distribution of the Flowering Plants of Gregg County, Texas.*
B.A., Baylor, 1931.

Master in Business Administration

Paul Edwin Boggs—Business Administration.

Thesis: *Problems in Airline Accounting.*
B.S., East Texas State Teachers College, 1940.

Billy Cyrus Frost—Business Administration.

Thesis: *Anti-Fraud Work of the Securities and Exchange Commission Involving Criminal Action.*
B.B.A., Texas, 1940.

William James Hudson—Business Administration and Economics.

Thesis: *Feeder Airlines, Their Development and Prospects.*
B.B.A., Texas, 1942.

Mrs. Emily Ellen Langford—Business Administration.

Thesis: *An Investigation of the Historical Evolution of Eliminations in Consolidated Balance Sheets.*
B.A., East Texas State Teachers College, 1928.

Arthur True Nicholas—Business Administration and Education.

Thesis: *An Analysis of Living Conditions in Lockhart, Texas.*
B.B.A., Texas, 1939.

Charlie Oscar Stephens—Business Administration.

Thesis: *Analysis of Retail Chain Organizations and Stores in Texas for the Year 1939.*
B.S., Sul Ross State Teachers College, 1939.

George Edwin Tharp—Business Administration.

Thesis: *Accounting for Coöperative Rooming Houses.*
B.B.A., Texas, 1941.

Master of Education

Galen Roy Adkins—Education, History, and English.

Thesis: *Educational Broadcasting in a City School System.*
B.S. in Ed., Texas, 1940.

Conrad Theodore Anderson—Education and History.

Thesis: *A Survey of St. Mary's University of San Antonio, Texas.*
B.A., St. Mary's, 1938.

Willie Lee Avara—Education and Economics.

Thesis: *A Study of Retardation in Boling, Bay City, Freeport, and West Columbia, Texas, High Schools, 1941-1942.*

B.S., North Texas State Teachers College, 1939.

Ethel Maurine Biggs—Education and Home Economics.

Thesis: *Implications for Curriculum Modification Based on Certain Socio-Economic Conditions of the Students in Required Eighth Grade and First Year Elective Home Living Courses in the White Public Schools of Austin, Texas.*
B.S. in H.E., Texas, 1933.

Herman Franklin Billingsley—Education, Economics, and Business Administration.

Thesis: *An Administrative Survey and Proposed Reorganization of the Public Schools of Tyler County, Texas.*
B.S., Stephen F. Austin State Teachers College, 1930.

Rufus Hunt Bolger—Education, Economics, and Sociology.

Thesis: *An Administrative Survey and Proposed Plan of Reorganization for the Schools of Titus County, Texas.*
B.S., East Texas State Teachers College, 1937.

Verna Leona Bryant—Education and History.

Thesis: *A Study of the Mathematical Vocabulary of English-Speaking and Spanish-Speaking Children in the Junior High School.*
B.S., Southwest Texas State Teachers College, 1928.

Vivian Varina Cobb—Education and Business Administration.

Thesis: *A Follow-Up Study of Business Careers of Graduates of the Commercial Department of Woodlawn High School, Birmingham, Alabama.*
B.S., Alabama College, 1928.

James Buford Daniel—Education and Business Administration.

Thesis: *A Study of Tests and Testing.*
B.S., Sam Houston State Teachers College, 1934.

Mary Lois Dunlap—Education and English.

Thesis: *Relationship between Motor Learning and Certain Tests of Physical Abilities.*
B.A., B.S. in P.Ed., Texas, 1935.

Beulah Marion Erickson—Education, English, and Physiology.

Thesis: *A Case Study Survey of the Health Needs of High School Girls.*
B.S. in P.Ed., Texas, 1933.

Richard Charles Gillespie—Education, Library Science, and English.

Thesis: *The Development of the High School Library in Texas.*
B.S., Sul Ross State Teachers College, 1927.

Mrs. Verna Mae Holcomb—Education and Speech.

Thesis: *The Correlation of Reading and Science at the Lower Levels.*
B.S., East Texas State Teachers College, 1935.

Mrs. Gladys Mears Holland—Education, English, and Psychology.

Thesis: *A Statistical Study of Certain Records of the Texas School for the Deaf.*
B.S. in Ed., Texas, 1939.

Mrs. La Vada Baze Holman—Education and Speech.

Thesis: *The Status of Speech Correction in the Small Public Schools of Texas.*
B.A., Texas Technological College, 1936.

John Rees Hughes—Education and Speech.

Thesis: *An Experimental Study of Educational Tours.*
B.S. in Ed., Kansas State Teachers College of Pittsburg, 1939.

Edna Marie Jones—Education and Music.

Thesis: *A Survey of Music Education in Texas.*
B.Mus., Hardin-Simmons, 1928; B.A., 1937.

Mrs. Albina Lois Kadanka—Education and Czech.

Thesis: *An Evaluation of a Character Education Program in the Primary Grades.*
B.S. in Ed., Texas College of Arts and Industries, 1935.

Elias Dubose King, Jr.—Education, Economics, and Business Administration.

Thesis: *An Administrative Survey and Proposed Reorganization of the Public Schools of Jasper County, Texas.*
B.S., Stephen F. Austin State Teachers College, 1937.

Mrs. Margaret Borg Land—Education and Home Economics.

Thesis: *An Exploratory Study of Experiences Other Than Classroom Teaching in the Home Economics Methods and Student Teaching Course at The University of Texas.*
B.S. in H.E., Texas, 1935.

Alton Burr Lee—Education and Business Administration.

Thesis: *A Program of Safety Education for the Public Schools of Decatur, Texas.*
B.S., North Texas State Teachers College, 1931.

Bertha Hall Lee—Education, Psychology, and Physiology.

Thesis: *Effects of a Special Conditioning Program upon the Physical Fitness of College Women.*
B.S. in P.Ed., Texas, 1936.

Mrs. Sally Haynes Lindaberry—Education and English.

Thesis: *The History of the Brownsville Junior College.*
B.S., Southwest Texas State Teachers College, 1925.

Browning Middleton—Education and Psychology.

Thesis: *The History of the Junior High School Movement in Texas.*
B.S. in Ed., Wilson Teachers College, 1938.

Josephene Newberry—Education, English, and History.

Thesis: *Legends and Festivals Associated with Indigenous Dances of Mexico.*
B.S., Southwest Texas State Teachers College, 1935.

Terrell Wilbur Ogg—Education, Economics, and Government.

Thesis: *A Comparative Study of School Finance in the Sabine Area.*
B.S., Stephen F. Austin State Teachers College, 1935.

Lulu Nolen Rice—Education and History.

Thesis: *A Survey of the Non-Athletic Extra-Curricular Activities in a Selected Number of Accredited Schools in Central Texas.*
B.S., North Texas State Teachers College, 1930.

Mrs. Janis Franke Romario—Education and English.

Thesis: *A Study of the Correlation of School Journalism and English Composition, with Emphasis on Texas High School Publications.*
B.A., Baylor College, 1934.

Mrs. Sue Hassler Rucker—Education and Library Science.

Thesis: *A Survey of the Literature on Occupations for Women in Texas.*
B.S., Sam Houston State Teachers College, 1935.

Esther Thelma Sliger—Education and Psychology.

Thesis: *Mental Hygiene Problems of a Group of Elementary School Children.*
B.S., Abilene Christian College, 1936.

Franklin Lindsay Stovall—Education, Government, and History.

Thesis: *An Evaluation of Three Non-Verbal Tests of Mental Ability.*
B.A., Texas, 1937.

Lee Una Sullivan—Education and Business Administration.

Thesis: *A Plan to Provide Practical Experience for Secretarial Students.*
B.A., Baylor, 1936.

Mrs. Anna Hill Vettters—Education and Speech.

Thesis: *Speech Correction among Spanish-Speaking Children in an Elementary School.*
B.A., Incarnate Word College, 1938.

J Eulys Wakeland—Education, Government, and Sociology.

Thesis: *A Comparison of Per-Capita Costs of and Ability to Support Schools, in Texas Cities of More Than 2,500 Population, 1934-1935 and 1935-1936.*
B.A., Trinity, 1935.

Reuel Henry Waldrop—Education, Government, and History.

Thesis: *An Administrative Survey and Reorganization Plan for Newton County Schools.*

B.S., Stephen F. Austin State Teachers College, 1937.

Warren Walton Whittlesey—Education and History.

Thesis: *A Report of the Change from the Eleven-Grade to the Twelve-Grade System in District Twelve of the Texas State Department of Education.*
B.S., East Texas State Teachers College, 1939.

L. Drury Lewis Woodson—Education and History.

Thesis: *A Survey of Football Injuries in Conference A Schools of The University of Texas Interscholastic League for the Year 1940.*
B.S., Southwest Texas State Teachers College, 1934.

Mrs. Rebecca Grantham Wooten—Education, English, and Library Science.

Thesis: *A History of Memphis State College.*
B.S., State Teachers College, Memphis, Tennessee, 1937.

Master of Journalism

Clarence Jean La Roche—Journalism, English, and Government.

Thesis: *Rip Ford: Frontier Journalist.*
B.J., Texas, 1941.

Master of Science in Chemical Engineering

Carl Moss Furgason—Chemical Engineering and Chemistry.

Thesis: *Studies in Nonmetallic Minerals: The Refining of Feldspar for Ceramic Uses.*
B.S. in Ch.E., Texas, 1941.

Ernest Earl Ludwig—Chemical Engineering, Chemistry, and Petroleum Engineering.

Thesis: *Vapor-Liquid Equilibrium of Methylcyclopentane-Benzene.*
B.S. in Ch.E., Texas, 1941.

Gustavo Edmundo Montes—Chemical Engineering and Chemistry.

Thesis: *The Production of Acetylene with Direct Current and Various Electrode Devices.*
B.S. in Ch.E., Texas, 1940.

Master of Science in Civil Engineering

Thomas William Stallworth—Civil Engineering, Economics, and Government.

Thesis: *Empirical Studies on the Interpretation of Results of the Consolidation Test.*
B.S. in C.E., The Rice Institute, 1934.

Master of Science in Electrical Engineering

Raymond Winfield Farr—Electrical Engineering, Applied Mathematics, and Mechanical Engineering.

Thesis: *A Simplified Torque Equation for the Capacitor Motor.*
B.S. in E.E., Texas, 1939.

Master of Science in Home Economics

Sara Files—Home Economics, Economics, and Sociology.

Thesis: *The Efficiency of One Hundred Small New Homes in Austin, Texas, in Meeting Family Needs.*
B.S. in H.E., Texas, 1941.

Mrs. Dorothy Russell Goetzke—Home Economics and Architecture.

Thesis: *The Organization and Management of the Alice Littlefield Dormitory, a University of Texas Residence Hall for Freshman Women.*
B.S., Texas State College for Women, 1931.

Mrs. Frankie Stewart Hansell—Home Economics, Education, and Sociology.

Thesis: *Money Contributions Made to Family Income by Bexar County Home Demonstration Club Women and the Influence of These Contributions upon the Homes.*
B.S., North Texas State Teachers College, 1938.

Ailene Catherine Stegner—Home Economics and Architecture.

Thesis: *The Use and Preparation of Beef Cuts as Used by Dining Halls, Lunch Rooms, Restaurants and Cafeterias, with Particular Reference to: 1. The Effect of Cooking Method on the Cost of the Meat, 2. Beef in the Menu, 3. Beef in Made Dishes.*
B.S., Cincinnati, 1941.

Mary Lou Tankersley—Home Economics and Architecture.

Thesis: *The Use and Preparation of Lamb and Veal Cuts and Meat Specialties as Used by Dining Halls, Lunch Rooms, Restaurants and Cafeterias, with Particular Reference to: 1. The Effect of Cooking Method on the Cost of the Meat, 2. Lamb, Veal and Meat Specialties in the Menu, 3. Beef, Pork, Lamb and Veal in Made Dishes.*

B.S. in H.E., Georgia State College for Women, 1941.

Helen Louisa Widick—Home Economics and Education.

Thesis: *Depreciation of China and Glassware in Two of the Residence Halls for Women at The University of Texas, with Special Reference to: 1. The Amount and Cost; 2. Causes of Breakage and Methods of Control; 3. Ways of Expressing the Rate; 4. A Comparison of the Rate with Certain Other Large Quantity Food Service Units.*

B.A., The College of Emporia, 1926.

Mary Jean Willard—Home Economics, Bacteriology, and Chemistry.

Thesis: *A Study of the Diet and Nutritional Status of Latin-American Women.*

B.S., North Texas State Teachers College, 1941.

LONG SESSION, 1942-1943

January 30, 1943

Doctor of Philosophy

Cecil Winston Gayler—Organic Chemistry, Physical Chemistry, and Bacteriology.

Thesis: *Synthesis of Hydantoins Containing Either a Phenyl or a Cycloalkyl Substituent.*

B.A., Howard College, 1938; M.S., Georgia School of Technology, 1940.

Richard Wadsworth Lindholm—Economics (Finance), Economic Theory, and Government (International Relations).

Thesis: *The Corporate Franchise as a Basis of Taxation.*

B.A., Gustavus Adolphus College, 1935; M.A., Minnesota, 1938.

Aubrey Hershel Nease—Organic Chemistry, Biochemistry, and Bacteriology.

Thesis: *The Synthesis and Testing of Some Analogues of "Pantothenic Acid."*

B.S., Panhandle Agricultural and Mechanical College, 1937; M.S., Oklahoma Agricultural and Mechanical College, 1939.

Leslie Grey Nunn, Jr.—Organic Chemistry, Chemical Engineering, and Analytical Chemistry.

Thesis: *Synthesis of 5, 5-Disubstituted Hydantoins Containing Either a Phenyl or Naphthyl or Both Groups.*

B.A., Texas, 1938; M.A., 1941.

Master of Arts

(in Latin-American Studies)

William Embry English—Education, Spanish, and History.

Thesis: *Fray Pedro de Gante*

B.A., Westminster College, 1934; B.S. in Ed., Northwestern, 1939.

Master of Arts

Frances Hall England—Spanish and English.

Thesis: *A Translation, with Notes, of José Joaquín Fernández de Lizardi's "Don Catrín de la Fachendo."*

B.A., Missouri, 1935.

Martin Grossman Ettlinger—Pure Mathematics and Chemistry.

Thesis: *On Irreducible Continuous Curves.*

B.A., Texas, 1942.

Goldie May Lane—Education, History, and Sociology.

Thesis: *The Elements in the Concept of Citizenship Contained in Current Second Grade Readers.*
B.S. in Ed., Texas, 1937.

Master in Business Administration

Wah Chan Ching—Business Administration.

Thesis: *Federal Economic Regulation of Scheduled Domestic Air Transportation: An Historical Survey.*
B.B.A., Armstrong College, 1940.

Frances Marie Sharpe—Business Administration.

Thesis: *The Place of Women in the Aviation Industry.*
B.B.A., Texas, 1937.

Master of Education

William Bushrod Bennett, Jr.—Education, Economics, and Government.

Thesis: *State Financing of Public School Capital Outlay.*
B.S. in Ed., Texas, 1936.

Myreta Julia Matthews—Education and History.

Thesis: *A Study of Word Concepts in the Texas State Adopted Reading Texts for First Grade for 1941-1942.*
B.S., Southwest Texas State Teachers College, 1934.

Master of Science in Medicine

*John Chester Kennedy—Surgery and Pathology.

Thesis: *An Experimental and Statistical Study of Penetrating Wounds of the Abdomen with Special Reference to the Influence of Spilled Blood.*
B.A., Texas, 1935; M.D., 1938.

May 31, 1943

Doctor of Philosophy

Edwin Robert Bogusch—Botany and Geology.

Thesis: *The Symbiosis, Growth, and Development of the Gonidia in Species of Parmelia and Ramalina.*
B.A., M.A., Texas, 1928.

Frank Parker Davis, Jr.—Educational Psychology, Psychology, and Educational Administration.

Thesis: *Diagnostic Methods in Clinical Psychology.*
B.S., Northwestern, 1927; M.A., Texas, 1940.

Charles Dudley Eaves—United States History, Modern European History (British and Continental), and Economics (Agricultural).

Thesis: *Post City: A Study in Colonization on the Texas Plains.*
B.A., Texas, 1916; M.A., Chicago, 1923.

Henry Alvin Holcomb—Chemical Engineering, Physical Chemistry, and Mechanical Engineering.

Thesis: *Design Criteria for Electric Discharge Units Producing Acetylene from Gasoline.*
B.S. in Ch.E., Texas Technological College, 1937; M.S. in Ch.E., Texas, 1939.

Walter Burke Howard—Chemical Engineering, Chemistry, and Applied Mathematics.

Thesis: *Several Factors Affecting Commercial Utilization of the Schoch Electric Discharge Process—Part B.*
B.A., Texas, 1937; B.S. in Ch.E., 1938; M.S. in Ch.E., 1940.

Huey Blair Howerton—American Government (Politics), Government (Public Law), and American History.

Thesis: *Mississippi Unconstitutional Legislation, 1817-1942.*
B.S., Mississippi Agricultural and Mechanical College, 1916; M.A., Mississippi, 1925; M.A., Texas, 1934.

- Arthur Furman Isbell—Organic Chemistry, Biochemistry, and Bacteriology.
 Thesis: *Researches on Substituted 5-Phenylhydantoins.*
 B.A., Baylor, 1937; M.A., Texas, 1941.
- John Edward Kasch—Chemical Engineering, Applied Mathematics, and Physical Chemistry.
 Thesis: *Development of the Distex Process, A Commercial Method for the Separation of Pure Hydrocarbons from Petroleum.*
 B.S. in Ch.E., Texas, 1938; M.S. in Ch.E., 1939.
- Archie Stanley Kasperik—Chemical Engineering, Applied Mathematics, and Physical Chemistry.
 Thesis: *Several Factors Affecting Commercial Utilization of the Schoch Electric Discharge Process—Part A.*
 B.S. in Ch.E., Texas, 1938; M.S. in Ch.E., 1939.
- Cecil Martin Knowles—Organic Chemistry, Bacteriology, and Inorganic Chemistry.
 Thesis: *The Reduction of Nitro Compounds in Liquid Ammonia.*
 B.A., Mississippi College, 1939; M.A., Texas, 1941.
- Robert Lambert McKee—Organic Chemistry, Physical Chemistry, and Bacteriology.
 Thesis: *Part I—Preparation of Hydantoins from Cinchona Alkaloids; Part II—Preparation of Certain N-Substituted Hydantoins.*
 B.A., The Rice Institute, 1938; M.A., Texas, 1940.
- Ardell Nichols Taylor—Zoology (Cytology), Botany, and Zoology (Genetics).
 Thesis: *Studies on the Germinal Vesicles of the Toad, Fish, and Salamander.*
 B.S., Texas Technological College, 1939; M.A., Texas, 1942.
- Mary Edna von Rosenberg—Curriculum and Instruction, Pure Mathematics, and Educational Administration.
 Thesis: *The Status of Teachers and Teaching of Secondary School Mathematics in Texas for the Academic Year 1942–1943.*
 B.A., Texas, 1918; M.A., 1927.
- Robert Philip Wagner—Zoology (Genetics), Botany, and Biochemistry.
 Thesis: *The Natural Nutrition of Drosophila Mulleri and Drosophila Aldrichi.*
 B.S., College of the City of New York, 1940.
- Mary Warters—Zoology (Genetics and Cytology), Invertebrate Zoology, and Botany.
 Thesis: *Chromosomal Aberrations in Wild Populations of Drosophila.*
 B.A., Shorter College, 1923; M.A., Ohio State, 1925.
- George Mario Watson—Physical Chemistry, Chemical Engineering, and Applied Mathematics.
 Thesis: *Part I—The Pressure-Volume-Temperature Relations of Some Saturated Hydrocarbons; Part II—A Partition Function for Liquids from the Harmonic Oscillator Model.*
 B.S. in Ch.E., Texas, 1938; M.S. in Ch.E., 1940.
- Wilson Frederick Wetzler—History and Philosophy of Education, Educational Administration, and Social Philosophy.
 Thesis: *A Survey of the Philosophical, Administrative, and Organizational Practices and Relationships of Twenty-One Publicly Controlled Texas Junior Colleges to Secondary Education.*
 B.A., Texas Christian, 1937; M.A., 1939.
- Bryan Wildenthal—Educational Administration and Economic Theory and Its History.
 Thesis: *Federal Aid for Education among the States.*
 B.A., Southwest Texas State Teachers College, 1925; M.A., Texas, 1927.

Doctor of Education

- Hiawatha Crosslin—Educational Administration, History and Philosophy of Education, and Curriculum and Instruction.
 Thesis: *The Development of Organization and Administration in the Institutions of Higher Learning in Texas.*
 B.A., Baylor, 1923; B.S. in Ed., Texas, 1928; M.Ed., 1929.

Robert Leroy Williams—Educational Administration, Curriculum and Instruction, and History and Philosophy of Education.

Thesis: *The Reorganization of a Program of Education in a Small Community*.
B.A., Abilene Christian College, 1925; M.A., Texas, 1938.

Master of Arts

Guy Willard Ashford—Education and English.

Thesis: *A Survey of the Educational Letters of Lord Chesterfield to His Son and Godson*.
B.A., State Normal School and Teachers College (Nebraska), 1926.

William Kaufman Baker—Zoology, Chemistry, and Mathematics.

Thesis: *Isolating Mechanisms in the Drosophila Mulleri Group*.
B.A., College of Wooster, 1941.

Betty Boyd—Chemistry and Bacteriology.

Thesis: *Metal Salts of 2-Mercapto-4-Phenyl- Δ^2 -1,3,4-Thiadiazoline-5-Thione*.
B.A., Texas, 1941.

Merrill Albert Craig—Government and History.

Thesis: *Charles Evans Hughes' Interpretation of the Commerce Clause*.
B.A., Texas, 1941.

William Henry Crain, Jr.—History, English, and Latin.

Thesis: *The Deeds of Pope Innocent III*.
B.A., Texas, 1940.

Thelma Eleanor De Shazo—Bacteriology and Botany.

Thesis: *Trypanosoma Cruzi in Texas*.
B.A., Texas, 1939.

Eugene Lambert Dulaney—Botany, Bacteriology, and Zoology.

Thesis: *Studies on the Antagonistic Action of Actinomycetes*.
B.S., Texas Technological College, 1941.

Durward Hershel Dyche—Economics, Government, and Sociology.

Thesis: *War-Time Price Control of the Glassine and Greaseproof Paper Industry*.
B.S., North Texas State Teachers College, 1941.

Mrs. Tillie Badu Moss Fry—History and Government.

Thesis: *A History of Llano County, Texas*.
B.A., Texas, 1936.

Thomas Burke Gallaher—Greek and Philosophy.

Thesis: *The Meaning of Baptizo*.
B.A., Austin College, 1926.

James Jubron Halbouy—Geology, Chemical Engineering, and Petroleum Engineering.

Thesis: *The Subsurface Geology of the Southwestern Portion of the Sabine Uplift, with Emphasis on Electric Log Correlation*.
B.A., Texas, 1942.

Carl S. Hereford—Education and Economics.

Thesis: *The Student Work Program of the National Youth Administration in the White Schools of Texas*.
B.A., Southwestern, 1932.

Mrs. Mary Newman Eby Howard—English and History.

Thesis: *The Novels of Amelia Barr*.
B.A., Texas, 1922.

Martha Kennard—Chemistry, Bacteriology, and Pure Mathematics.

Thesis: *Spectrophotometric Determination of Iron with Sulfosalicylic Acid*.
B.A., Texas, 1942.

Mary Pauline Ladd—English and French.

Thesis: *A Vocabulary Study of Early Texas English*.
B.A., Texas College of Arts and Industries, 1940.

Charles Ely Lankford—Bacteriology and Chemistry.

Thesis: *Studies on the Origin of Sulfonamide Resistance of the Gonococcus*.
B.A., Texas, 1935.

- Allen Charlton Moore—Chemistry and Bacteriology.
 Thesis: *A Modification of Henry's Method for the Preparation of Propargyl Alcohol (2-Propyn-1-ol).*
 B.A., Texas, 1937.
- Leon Owen Morgan—Chemistry and Physics.
 Thesis: *A Kinetic Study of the Aldol Condensation.*
 B.A., Oklahoma City, 1941.
- John B. Otto, Jr.—Chemistry and Chemical Engineering.
 Thesis: *The Ammonolysis of Ethyl Iodide by Liquid Ammonia.*
 B.S. in Ch.E., Texas College of Arts and Industries, 1941.
- Harry Edward Payne—Greek and History.
 Thesis: *Studies in the Pastoral Epistles.*
 B.A., Texas, 1940.
- Hermann Schaus—English and German.
 Thesis: *A Critical Study of Mark Twain's "The Mysterious Stranger."*
 B.A., Texas, 1942.
- Josephine Lillian Schiller—English and Education.
 Thesis: *Paul Laurence Dunbar.*
 B.A., Baylor, 1928.
- David Henry Templeton—Chemistry, Applied Mathematics, and Chemical Engineering.
 Thesis: *The Formal Electrode Potentials of Palladium in Aqueous Hydrochloric and Perchloric Acid Solutions.*
 B.S., Louisiana Polytechnic Institute, 1941.
- Thomas Estell Terry—Education and History.
 Thesis: *A Survey and a Proposed Plan for the Reorganization of the Public Schools of Webb County, Texas.*
 B.A., Sul Ross State Teachers College, 1929.
- *Edward Donnall Thomas—Chemistry and Chemical Engineering.
 Thesis: *Isolation of Certain New Bases from Petroleum.*
 B.A., Texas, 1941.
- Raoul Terres Velasco—Economics and Government.
 Thesis: *Silver in Mexico during 1930-1940.*
 B.A., Texas, 1941.

Master in Business Administration

- Yoshiyuki Don Hibino—Business Administration.
 Thesis: *British, American, and Japanese Cotton Goods in the China Market.*
 B.S., California, 1940.
- Hubert Leopold Menn—Business Administration.
 Thesis: *Evolution of Net Worth Accounting to 1934.*
 B.B.A., Texas, 1942.

Master of Education

- Julia Glenn Chrisman—Education and Sociology.
 Thesis: *A Survey of Diamond Hill High School, Fort Worth, Texas.*
 B.S., North Texas State Teachers College, 1933.
- Morris S. Keathley—Education and History.
 Thesis: *Administration of Visual-Instruction Programs in East Central Texas.*
 B.S., North Texas State Teachers College, 1936.
- Robert Horace Shelton—Education, Economics, Psychology, and Sociology.
 Thesis: *A Comparison of Health Ratings with Selected Measures of Physical Fitness of College Men.*
 B.S., Southwest Texas State Teachers College, 1921.
- Mrs. Dorothy House Young—Education, English, and Spanish.
 Thesis: *The History of Education in De Witt County.*
 B.S. in Ed., Texas, 1937.

*Registered at Galveston.

Master of Science in Chemical Engineering

Ernest Bruce Blount—Chemical Engineering and Chemistry.

Thesis: *Vermiculite as a Raw Material in Ceramic Manufacture.*
B.S. in Ch.E., Texas, 1941.

Elmer Thomas Neill—Chemical Engineering, Applied Mathematics, Mechanical Engineering, and Petroleum Engineering.

Thesis: *Optimum Temperatures at 300 and 600 P.S.I. for Reforming Low, Medium, and High Octane Naphthas.*
B.S. in Ch.E., Texas, 1940.

Master of Science in Civil Engineering

Michel Assad Saad—Civil Engineering, Mechanical Engineering, and Architecture.

Thesis: *A Study of Footing Settlements as Related to Type of Foundation Soil and Shape of Building.*
B.S. in C.E., Texas, 1941.

Master of Science in Mechanical Engineering

Winslow Allhands Randle—Mechanical Engineering, Electrical Engineering, and Petroleum Engineering.

Thesis: *The Effect of the Diameter-Length Ratio on the Tube Fluid Film Coefficients for Tubular Heat Exchangers.*
B.S., Louisiana State, 1939.

Master of Science in Petroleum Engineering

Fraser Hall Allen—Petroleum Engineering, Applied Mathematics, Chemical Engineering, and Mechanical Engineering.

Thesis: *The Effects of Water and Blending on the Deterioration of Gasoline Motor Fuels in Storage.*
B.A., Toronto, 1941.

Master of Science in Sanitary Engineering

George Doyle Prock—Civil Engineering and Bacteriology.

Thesis: *Flow Distribution in Hydraulic Networks.*
B.S. in C.E., Texas, 1940.

SUMMER TERM, 1943

August 29, 1943

Doctor of Philosophy

Luis Hamilton Bartlett—Chemical and Mechanical Engineering and Physical Chemistry.

Thesis: *The Development of a New System for Quick Freezing Foods.*
B.S. in Ch.E., Tennessee, 1934; M.S., 1935.

Forrest Farley Blankenship—Physical Chemistry, Physics, and Mathematics.

Thesis: *The Development of a High Pressure, High Temperature Viscometer for Gaseous Hydrocarbons and the Determination of the Viscosity of Ethylene.*
B.A., Texas, 1932; M.A., 1933.

Rex DeVern Hopper—Latin-American Social Thought and Latin-American Government.

Thesis: *The Struggle for Independence in Latin America: A Sociological Interpretation.*
B.A., Butler, 1922.

York Young Willbern—Government (Public Law and Politics) and American History.

Thesis: *Administrative Control of Petroleum Production in Texas.*
B.A., Southwest Texas State Teachers College, 1934; M.A., Texas, 1938.

Pierce McDonald Williamson—Physical Chemistry, Organic Chemistry, and Chemical Engineering.

Thesis: *The Kinetics of the Ammonolysis of Organic Halogen Compounds by Liquid Ammonia.*

B.A., The Rice Institute, 1929; M.A., Texas, 1941.

Benjamin Woodrow Wyatt—Organic Chemistry, Bacteriology, and Physical Chemistry.

Thesis: *Researches on Substituted Hydantoins.*

B.S. in Chem., Southwestern, 1938; M.A., Texas, 1940.

Doctor of Education

Joseph R. Griggs—Educational Administration, Curriculum and Instruction, and Educational Psychology.

Thesis: *Equalization of Educational Opportunities in the Several States with Special Reference to Contract Schools in Texas.*

B.A., Texas Technological College, 1932; M.A., 1939.

Richard Melvin Hawkins—Educational Administration, Curriculum and Instruction, and History and Philosophy of Education.

Thesis: *The Organization and Administration of Student-Teaching in State Supported Colleges of the Southern Association of Colleges and Secondary Schools.*

B.A., Southwestern, 1927; M.A., Southern Methodist, 1935.

Grady P. Parker—Educational Administration, Curriculum and Instruction, and Educational Psychology.

Thesis: *Some Developments in the Public Schools of Texas, 1934 to 1939.*

B.A., North Texas State Teachers College, 1929.

Master of Arts

William Herschel Avinger—Education and History.

Thesis: *A Survey of Extracurricular Activities in Elementary Schools in Central Texas.*
B.A., Howard Payne College, 1937.

Mrs. Gladys Lucille Malone Barbour—Education and Pure Mathematics.

Thesis: *The Trends in the Teaching of Solid Geometry as Determined by an Examination of the Content and Methods Employed in the Texts, 1887-1942.*
B.A., Sam Houston State Teachers College, 1926.

Alma Barton—Education and English.

Thesis: *An Evaluation of the Bulletin Board as an Aid to the Teaching of American History.*
B.A., Texas, 1925.

Frances Esther Beaver—Education, Library Science, and English.

Thesis: *A Survey of Texas Libraries.*
B.A., Texas, 1921.

Ida May Bernhard—Education and History.

Thesis: *The Attendance Service in Sixty-Two Selected Texas High Schools.*
B.A., Texas, 1931.

Mrs. Alice Frances Jarman Browder—Sociology, Government, and Pure Mathematics.

Thesis: *Changes in Age and Sex Distribution, Birth Rates, and Fertility Ratios of the Texas Population, 1930 to 1940.*
B.A., Mary Baldwin College, 1940.

Mrs. Myrtle Ruth Stephens Busch—English, History, and Library Science.

Thesis: *The Position of Women in England, 1660-1700.*
B.A., Stephen F. Austin State Teachers College, 1933.

Jack Walton Byers—English, Education, and Philosophy.

Thesis: *The Medieval and the Classical Elements in the Writings of George Gascoigne.*
B.A., Texas Christian, 1941.

Richard Elwyn Byrns—Government, Economics, and Education.

Thesis: *Reconstruction Finance Corporation.*
B.A., East Texas State Teachers College, 1938.

Catherine Ikard Carrow—History and Sociology.

Thesis: *The Amusements of Texas from 1880–1890.*
B.S., Texas State College for Women, 1927.

Irene Carter—English and Education.

Thesis: *Shakespeare's Imagery in "The Tragedy of Hamlet, Prince of Denmark."*
B.A., North Texas State Teachers College, 1942.

Alice Cashen—Education, History, and Sociology.

Thesis: *A Study of the Development of Aeronautics in Secondary Schools.*
B.A., Baylor, 1931.

Angelita María Cruz—Education and Spanish.

Thesis: *Spanish-Speaking Children's Expressed Attitudes toward Money Value.*
B.A., Texas College of Arts and Industries, 1938.

Sara Kay Curtis—History and Spanish.

Thesis: *A History of Gillespie County, Texas, 1846–1900.*
B.A., Texas, 1941.

David Darwin Davies—Chemistry and Mathematics.

Thesis: *Reactions of Molybdenum (VI) Oxide in Liquid Ammonia; Salts of Aquo-
ammoniomolybdic Acid.*
B.S., Southwest Texas State Teachers College, 1941.

Myrtis Louva Douglas—History, Economics, and Government.

Thesis: *The History of the Agricultural Fairs of Texas.*
B.S., Texas Christian, 1934.

Dorothy Dowdy—English and History.

Thesis: *The Reading Habits and Reading List of Percy Bysshe Shelley.*
B.A., Louisiana State Normal College, 1940.

Howard Lovelace Ezell—Education, Government, and History.

Thesis: *An Educational Survey and a Proposed Plan for Reorganization of the Schools
of Collingsworth County, Texas.*
B.A., Texas Wesleyan College, 1940.

Reuben Jackson Gallaway—English, Education, and Philosophy.

Thesis: *English Balladry, 1700–25.*
B.A., The Rice Institute, 1931.

Robert Raymond Gillis—Education and History.

Thesis: *A Reading Program Designed to Prevent Failure in the Dickinson, Texas,
Elementary School.*
B.A., The Rice Institute, 1937.

Sister Carmelita Glennon—History, Education, and Library Science.

Thesis: *History of the Diocese of Galveston, 1847–1874.*
B.A., Rosary College, 1937.

Thomas Hale—English and History.

Thesis: *The Element of Avarice in the Works of Joseph Conrad.*
B.A., Louisiana State, 1923.

Dale Elmo Howard—Education and Sociology.

Thesis: *Application of the "Evaluative Criteria" to the De Leon and Comanche High
Schools.*
B.A., Howard Payne College, 1935.

Lois Hunt—History and Education.

Thesis: *A History of the Beaumont Municipal Port, 1856 to 1942.*
B.A., Baylor, 1924.

Tezzie Oregon Johnson—English, Education, and History.

Thesis: *Paul Hamilton Hayne—A Representative Southern Poet.*
B.S., East Texas State Teachers College, 1934; B.A., 1938.

Nancy Elizabeth Jones—English, Education, and Spanish.

Thesis: *Emerson's Reputation as a Poet, 1838–1888.*
B.A., Texas, 1939.

Sister Mary Finbar Joyce—Latin and English.

Thesis: *Primordia Coenobii Gandeshemensis of Hroswitha (Text, Translation, and Commentary).*

B.A., Incarnate Word College, 1942.

Mrs. Jane Frances Wynn Kelley—Education and English.

Thesis: *A Program for Remedial English in the Third Year of the Ball High School of Galveston, Texas.*

B.A., Texas, 1937.

Elizabeth Ann Little—English and Spanish.

Thesis: *Implications of Social Justice in Thirteen of Shakespeare's Plays.*

B.A., Southwestern, 1926.

Alice McCall—English, Economics, and Education.

Thesis: *Stewart Edward White's Depiction of American Frontier Characters.*

B.S., George Peabody College, 1924.

Lera Vashti McFarland—Education and Sociology.

Thesis: *A Study of Relations among Factors Involved in the Socio-Economic Environment of Junior High-School Pupils.*

B.A., Texas, 1930.

Sister M. Loyola McGary—English, Education, and Library Science.

Thesis: *Emily Dickinson, "the New England Nun": A Justification of Her Title from Her Writings.*

B.A., Rosemont College, 1933.

Gladys Matthews—Education and History.

Thesis: *A Study of Pictorial Illustrations in High-School History Textbooks Adopted for Texas Schools since 1919.*

B.L., Trinity, 1917.

Esther Louise Mueller—English, Education, and History.

Thesis: *Cornerstone (A Novel).*

B.A., Texas, 1937; B.J., 1942.

Josephine Pile—English and Education.

Thesis: *Wordsworth, Leader to Lost Leader.*

B.A., Texas, 1939.

Annie Lou Pollard—Education, Botany, and Zoology.

Thesis: *A Study of the Nature of Reading Done by Tenth-Grade Students and the Influence of Radio on the Tendencies Revealed.*

B.A., Mary Hardin-Baylor College, 1927.

Henry David Pope—Chemistry and Bacteriology.

Thesis: *Condensations of Sodium Acetylide with Unsaturated Aldehydes of a Conjugate Nature.*

B.A., Alabama, 1920; M.A., Texas, 1929.

Mrs. Olive Davanay Pruett—Sociology, Education, and Government.

Thesis: *A Study of Personality Adjustment in a Group of Junior High-School Children of High Intelligence Rating.*

B.A., Howard Payne College, 1919.

Dorothy Louise Rees—Pure Mathematics and Education.

Thesis: *Certain Tests for Randomness Applied to Tippett's Random Sampling Numbers.*

B.A., Texas, 1933.

Harold Robert Schmidt—Chemistry and Physics.

Thesis: *Some Iodo-4-Hydroxybiphenyls and Their Esters.*

B.A., Carthage College, 1941.

*Fred Davis Spencer, Jr.—Anatomy, Medicine, and Physiology.

Thesis: *The Role of the Cardiac Luminal (Thebesian) Vessels of the Left Ventricle in Draining the Myocardium.*

B.A., Texas, 1939; M.D., 1942.

*Registered at Galveston.

Catherine Carr Ward—Latin, Education, and English.

Thesis: *Social Life of the Romans as Revealed by Pliny's Letters.*
B.A., Mississippi State College for Women, 1928.

Maudie Vinita West—English and Philosophy.

Thesis: *A Study in Conrad Aiken's Poetry.*
B.A., Texas, 1940.

Herbert Everett Williford—Education and Economics.

Thesis: *A Comparison of Per-Capita Costs of and Ability to Support Schools, in Texas Cities of More than 2500 Population, 1935-1936 and 1936-1937.*
B.A., Texas, 1929.

Master in Business Administration

Dilla Louese Enochs—Business Administration and Education.

Thesis: *Index Numbers of Prices, Marketings, and Income for Farm Products in Texas.*

B.S., Texas State College for Women, 1934.

Francis Barns May—Business Administration, Economics, and Pure Mathematics.

Thesis: *The Effect of Elimination of Trend and Cyclical Variations on Oscillations in Time Series.*

B.B.A., Texas, 1941.

Mrs. Marjorie Miles Trevillyan—Business Administration.

Thesis: *The American Copper Industry between Two Wars with Special Emphasis on Its Economic Aspects.*

B.A., Texas, 1941.

Master of Education

Mrs. Sibyl Marie Easterling Carle—Education, History, Sociology, and Zoology.

Thesis: *The Reliability of Evaluations by High-School Girls of Advertisements of Health Products.*

B.S. in P.Ed., Our Lady of the Lake College, 1937.

Leona Doss—Education and English.

Thesis: *An Experimental Study in the Correlation of Certain Measures of Personality with Certain Measures of Reading Readiness in Grade I.*

B.S. in Ed., Texas, 1934.

Ruby Gates—Education and History.

Thesis: *The Slave Plantation as an Educational Institution: The Whites—Slave Owners, Overseers, and Middle Class.*

B.S., Sam Houston State Teachers College, 1938.

Mary Elizabeth Hardy—Education, English, and Sociology.

Thesis: *A Study of the Age-Grade Status of Pupils in Woodrow Wilson School, Los Angeles Heights, San Antonio, Texas.*

B.A., Texas Christian, 1936.

Willie Hawkins—Education and Home Economics.

Thesis: *A Study of the Educational Value of Summer Projects of 187 Girls Enrolled in the Year-Round Homemaking Programs in Houston County, Texas, in Relation to High-School Accreditation.*

B.A., Simmons, 1927; B.S., Texas Technological College, 1929.

Zelda Ann Jones—Education and English.

Thesis: *An Analysis of Six Recent Elementary Algebra Textbooks.*

B.S., Sam Houston State Teachers College, 1934.

Harmon Leon King—Education, English, and Spanish.

Thesis: *Some Fundamental Aspects of Supervision by the Principal.*
B.A., Stephen F. Austin State Teachers College, 1934.

Mrs. Lucile Josephine Jaeggli Martin—Education and Home Economics.

Thesis: *A Study of the Homemaking Education and Training Program for Out-of-School Youth Employed by the National Youth Administration in Texas.*

B.S. in H.E., Texas, 1929.

Jessie Sylvia Meredith—Education and Government.

Thesis: *A Proposed Program of Guidance for Dickinson, Texas, High School.*
B.S., Sam Houston State Teachers College, 1931.

Mrs. Mary Kathryn Stubblefield Morrow—Education and English.

Thesis: *A Study of Ballads in Representative Anthologies of Senior High-School Level from 1849 to 1941.*
B.A., Mary Hardin-Baylor College, 1932.

Mrs. Edna Lou Pavelka—Education and Drama.

Thesis: *Realizing the Objectives of Literature in the Secondary School through a Study of Shakespeare's "The Taming of the Shrew."*
B.A., Incarnate Word College, 1934.

Mary Ione Ricks—Education, English, and History.

Thesis: *A Comparative Study of Failures in the Goose Creek, Texas, Elementary Schools for the School Years, 1938-1939 and 1940-1941.*
B.S., Sam Houston State Teachers College, 1927.

Ruth Louise Shoap—Education and Speech.

Thesis: *Pupil Mobility of a Graduating Class in the Senior High School of Austin, Texas.*
B.A., Texas, 1929.

Mrs. Mattie Winifred Jordan Sorenson—Education, Government, and Zoology.

Thesis: *An Equivalent Group Study of Improvement in Physical Fitness of High-School Girls.*
B.A., West Texas State Teachers College, 1932.

Mrs. Marion Elizabeth Moore Watts—Education and History.

Thesis: *A Study of the Problems of Women Teachers in South and Southeast Texas.*
B.S. in Ed., Oklahoma, 1936.

Master of Science in Chemical Engineering

Soon Yuck Wong—Chemical Engineering, Chemistry, and Applied Mathematics.

Thesis: *Benzene from Crude Petroleum by the Distex Process.*
B.S. in Ch.E., Texas, 1943.

Master of Science in Civil Engineering

Salvador Armas-Hernandez—Civil Engineering and Petroleum Engineering.

Thesis: *A Highway System for Venezuela.*
Graduate, Central University of Venezuela, 1940.

Master of Science in Mechanical Engineering

Fritz Manfred Rosenbusch—Mechanical Engineering, Chemical Engineering, and Applied Mathematics.

Thesis: *Experimental and Analytical Determination of Specific Heats of Foodstuffs.*
B.S. in M.E., Texas, 1942.

Master of Science in Petroleum Engineering

Ernest Edward Merkt—Petroleum Engineering and Geology.

Thesis: *The Effect of Bacteria on the Permeability of Oil Reservoir Rocks.*
B.S. in P.E., Texas, 1941.

Master of Science in Home Economics

Frances Inez Hemphill—Home Economics and Chemistry.

Thesis: *A Plan for Adequate Feeding in Urban, Low-Income Groups with Assays for Nutritive Value and Determinations of Nutritive Losses in Preparation.*
B.S., Texas State College for Women, 1941.

Sister Mary Claude Pennartz—Home Economics and Education.

Thesis: *Trends in Clothing Expenditures of Certain Groups of University of Texas Girls from 1930 to 1942.*
B.S. in H.E., Incarnate Word College, 1941.

Master of Music

(in Music Education)

Marjorie Taylor Walhall—Music and Education.

Thesis: *A Study of the Influence of Previous Music Training on Success in College Music Study.*

B.A., Our Lady of the Lake College, 1941.

LONG SESSION, 1943—1944**October 26, 1943****Doctor of Philosophy**

Charles Francis Van Berg—Chemical Engineering, Chemistry, and Applied Mathematics.

Thesis: *Separation of a Commercial Heptane Fraction of Petroleum in the Distex Process.*

B.S. in Ch.E., Texas, 1939; M.S. in Ch.E., 1941.

Master of Arts

Lura Nancy Gregory—English and Spanish.

Thesis: *Is Browning Really Dramatic in the So-Called Dramatic Poems?*

B.A., East Texas State Teachers College, 1940.

Mrs. Lois Vivian Stanford Hallman—History, Education, and Sociology.

Thesis: *A History of Clay County, Alabama.*

B.A., Alabama College, 1939.

Eloise McCabe—Bacteriology, Chemistry, and Education.

Thesis: *A Comparison of Bacillus Coagulans and Bacillus Thermoacidurans.*

B.A., Texas, 1942.

Hubert Hendrix Terry—History and Spanish.

Thesis: *The Origins of the Mexican Revolution of 1910.*

B.A., East Texas State Teachers College, 1941.

Fanora Voight—English, Education, and History.

Thesis: *Puritan Elements in Milton's Poetry.*

B.A., Incarnate Word College, 1931.

Master in Business Administration

James Edmund Yarbrough—Business Administration.

Thesis: *Control of Customer Accounting for Electric Utilities.*

B.S., Southeastern (Oklahoma) Teachers College, 1936.

Master of Education

Earl Urho Anttila—Education and Spanish.

Thesis: *A Survey of the History of Education in the Vernacular.*

B.S. in Ed., Ohio State University, 1936.

Edna Marjorie Beringer—Education and Psychology.

Thesis: *A Technique for Evaluating the Contents of a Pre-Primer and Primer.*

B.A., Baylor, 1934.

Mrs. Marcia Martha Schattenstein-Montes—Education and English.

Thesis: *Education as Reflected in American Fiction—1865-1900.*

B.B.A., St. John's, 1940.

Master of Science in Civil Engineering

Leland Barclay—Civil Engineering, Architecture, and Business Administration.

Thesis: *Stress-Strain Relations for a Standard Concrete Test Cylinder.*

B.S. in C.E., Texas, 1926.

February 29, 1944

Doctor of Philosophy

Richard Buhmann Johnson—Economics (Social Control), Economic Theory, and Business Administration (Insurance).

Thesis: *The Legal Reserve Life Insurance Industry in the United States: An Appraisal of Its Operations and Proposals for Reform.*
B.A., Texas, 1934; M.A., 1936.

Ismael Rodríguez-Bou—Educational Psychology and Psychology.

Thesis: *A Study of the Parallelism of English and Spanish Vocabularies.*
B.A., Puerto Rico, 1936; M.A., Columbia, 1938.

Roy Charles Thompson, Jr.—Bio-organic Chemistry, Physical Chemistry, and Bacteriology.

Thesis: *Biochemical Growth Studies.*

B.A., Texas, 1940; M.A., 1942.

Master of Arts

(in Latin-American Studies)

Paul Hugh Walters—History, Anthropology, and Spanish.

Thesis: *Survey of the History of La Bahía del Espíritu Santo, 1721–1821.*
B.A., Texas, 1943.

Master of Arts

George John Beto—History and Sociology.

Thesis: *The Marburg Colloquy of 1529: A Textual Study.*
B.A., Valparaiso, 1938.

Barbara Pearl Bradfield—Psychology, English, and Sociology.

Thesis: *An Experimental Study of Virginia Case's Concept of Introversion-Extraversion.*
B.A., Texas, 1942.

Dorothy Candee Davidson—English and Education.

Thesis: *The Aestheticism of the Poetry of Elinor Wylie.*
B.A., Southwestern, 1937.

Robert Bradford Fox—Anthropology and Sociology.

Thesis: *Bronislaw Malinowski—A Critical Analysis.*
B.A., Southern California, 1941.

Henry James Gore—Education, Economics, and Pure Mathematics.

Thesis: *Administrative Study of Freeport High School, Freeport, Texas.*
B.A., Texas, 1931.

Katherine Eleanor Knight—Spanish and French.

Thesis: *Pío Baroja's Technique as a Historical Novelist.*
B.A., Southern Methodist, 1942.

Vester Lee Rowland—Education, English, and Psychology.

Thesis: *An Investigation of the Rules and Regulations of the Boards of Education of Public Schools in Cities of Five Thousand Population and Over in Texas.*
B.S., Oklahoma, 1932.

Frank Lowrey Whitehead—Education, Economics, and History.

Thesis: *An Administrative Survey and Proposed Plan of Reorganization of the Schools in Kendall County, Texas.*
B.A., St. Mary's, 1936.

Elgin Williams—Economics and Philosophy.

Thesis: *Application of the Instrumental Theory of Value to Agricultural Economics.*
B.A., Texas, 1942.

James Lee Wilson—Geology, German, and Zoology.

Thesis: *The Trilobite Fauna of the Cameraspis Zone in the Basal Wilberns Limestone of Texas.*
B.A., Texas, 1942.

Elmer Staten Wynne—Bacteriology and Chemistry.

Thesis: *The Antagonistic Action of Aerobacter Strains toward Other Bacteria.*
B.A., Texas, 1938.

Master in Business Administration

Gerald Winn Martin, Jr.—Business Administration and Mechanical Engineering.

Thesis: *A Study of Air Cargo Flight Equipment.*
B.B.A., Texas, 1937.

Master of Science in Aeronautical Engineering

Harry Wesley Brown—Aeronautical Engineering and Business Administration.

Thesis: *Development, Calibration, and Testing of Spotwelding Equipment with Tests on Aluminized Steel.*
B.S. in M.E., Nebraska, 1939.

Master of Science in Chemical Engineering

Melvin Harold Gertz—Chemical Engineering, Chemistry, and Physics.

Thesis: *Vapor-Liquid Equilibria of Methylcyclopentane-N-Heptane and Methylcyclopentane-Aniline.*
B.S. in Ch.E., Texas, 1943.

Master of Science in Mechanical Engineering

Carl William Besserer, Jr.—Mechanical Engineering and Aeronautical Engineering.

Thesis: *Spot Welding of Low Carbon Steels.*
B.S. in M.E., Texas, 1939.

Master of Science in Home Economics

Mrs. Merle Spies Babb—Home Economics, Education, and Sociology.

Thesis: *A Study of the Diets of 50 Selected Families in Tuscaloosa County, Alabama, with Particular Reference to Two Typical Families, and a Comparison of the Effect on the Nutritional Adequacy by Supplementing the Natural Diets with: 1. Five Cents a Person a Day to Buy Any Caloric Food; 2. One-Half Loaf of Whole Wheat Bread a Person a Day.*
B.S., North Texas State Teachers College, 1925.

Mrs. Jean Neubauer Knolle—Home Economics, History, and Journalism.

Thesis: *A Sanitary Code for Large Food-Service Units Based upon State and Municipal Regulations and Policies; United States Public Health Service Recommended Regulations and Code; and the United States Army and Navy Regulations and Policies.*

B.S., Minnesota, 1937.

Mildred Josephine Wagner—Home Economics, History, and Business Administration.

Thesis: *A Study of the Changes Made in the Housing and Food Service on the Campus of The University of Texas during World War I and World War II.*
B.S. in H.E., Texas Technological College, 1939.

June 26, 1944

Doctor of Philosophy

Winfred Cornelius Craig—Organic Chemistry, Inorganic Chemistry, and Chemical Engineering.

Thesis: *A Study of Certain Hydantoins Containing a 4-Morpholinylmethyl Substituent.*
B.S., Loyola, 1938; M.S., Detroit, 1940.

Raymond Harold Fletcher—Curriculum and Instruction, Educational Administration, and Sociology.

Thesis: *The Role of the State in the Administration of Elementary Education.*
B.S., East Texas State Teachers College, 1935; M.S., 1938.

Robert Henry Gregory—Business Administration (Accounting) and Economics.

Thesis: *Municipally-Owned Electric Utilities in Texas.*

B.S. in Ch.E., Texas, 1939; M.B.A., 1940.

William B. Leslie—Organic Chemistry, Bacteriology, and Biochemistry.

Thesis: *Part I—Preparation of Pyridinium Compounds Containing a Pyrimidine Substituent; Part II—A Color Test for Certain Pyridines; Part III—Synthesis of 5-Benzohydryl-5-Substituted Hydantoins.*

B.A., Texas, 1939; M.A., 1941.

Aubrey Rew McKinney—Physical Chemistry, Chemical Engineering, and Organic Chemistry.

Thesis: *The Catalytic Activity of Manganese.*

B.A., Texas, 1938; M.A., 1940.

John Hampton Shown—Organic Chemistry, Physical-Inorganic Chemistry, and Bacteriology.

Thesis: *Pyrrole Formation during Hydantoin Synthesis.*

B.S., North Texas State Teachers College, 1940; M.S., 1941.

Ellis Mast Sowell—Business Administration (Accounting) and Economics (History and Theory).

Thesis: *The Evolution of the Theories and Techniques of Standard Costs.*

B.S., Stephen F. Austin State Teachers College, 1934; M.B.A., Texas, 1936.

Ben Price Truitt—Organic Chemistry, Physical Chemistry, and Bacteriology.

Thesis: *A Study of Alkylated Pyridines.*

B.S., North Texas State Teachers College, 1941; M.A., 1942.

Eugene Payne Whitlow—Physical Chemistry, Chemical Engineering, and Applied Mathematics.

Thesis: *Heats of Dilution and Heat Capacities of Aqueous Solutions of Mono-, Di-, and Trimethylamine Hydrochlorides.*

B.S. in Ch.E., Texas, 1939; M.S. in Ch.E., 1940.

Master of Arts

(in Public Administration)

Mrs. Violet Valerie Alkemeyer Earle—Government, Economics, and Law.

Thesis: *The United States Employment Service in San Antonio, Texas: A Case Study.*

B.A., Texas, 1940.

Master of Arts

Marjorie Arvilla Allen—English, History, and Philosophy.

Thesis: *Patterns of Thought in American Periodical Criticism from 1835 to 1840: A Study of Eight Magazines.*

B.A., Southern Methodist, 1941.

Ruth Ellen Barker—English and German.

Thesis: *Byron at Work in Geneva: the Genesis and Growth of "Childe Harold," Canto III.*

B.A., Texas, 1941.

William Warren Baxley—English, Economics, and History.

Thesis: *Pitchfork Smith, Texas Liberal.*

B.J., Texas, 1943.

Ivan Carl Belknap—Sociology and Economics.

Thesis: *An Institutional Approach to the Study of Social Problems with an Illustrative Treatment of a Problem of Migratory Agricultural Labor.*

B.A., Texas, 1940.

Charles Idol Browne, Jr.—Chemistry, Applied Mathematics, and Physics.

Thesis: *An Attempt to Determine the Heat of Formation of Iodine Pentafluoride.*

B.A., Drew, 1941.

Lucile Bruton—Sociology and English.

Thesis: *Health Provision for Old Age Assistance: An Introductory Study.*

B.A., Texas, 1937.

- Edna Vivian Cronquist—Botany, Zoology, and Physiology.
 Thesis: *The Mold-Fungus Flora of Tillandsia Species.*
 B.A., Texas, 1941.
- Mrs. Eva Ruissy García-Carrillo Currie—French, Spanish, and Education.
 Thesis: *Sainte-Beuve and French Women Novelists.*
 B.A., Texas, 1933.
- Bruce Thornton Deeter—History, Education, and English.
 Thesis: *The Attitude of Alexander H. Stephens toward the Confederacy.*
 B.A., Texas, 1940.
- Genevieve Charlise Fergeson—History and Government.
 Thesis: *The Development of Self-Government in the Plymouth Colony.*
 B.A., Texas Technological College, 1941.
- Hazel Louise Harrod—English, Education, and Philosophy.
 Thesis: *Mrs. Browning's Poetry: An Evaluation.*
 B.A., Texas, 1942.
- Mrs. Betty Virginia Rockwell Hatcher—Education and Government.
 Thesis: *A Study of the Newspapers in Senior High Schools of Texas.*
 B.J., Texas, 1936; B.S. in Ed., 1937.
- Jesse James Howard—Geology and Anthropology.
 Thesis: *A Stratigraphic and Paleontologic Study of a Well Drilled in Stone County, Mississippi.*
 B.A., Texas, 1943.
- Mrs. Faye Main Jones—Education, English, and Psychology.
 Thesis: *Analysis of Special Pupil Activities in Three Series of Spellers.*
 B.A., Texas, 1941.
- Luther Paul Koepke—History and English.
 Thesis: *The Organization of the Synodical Conference in the Lutheran Church.*
 B.A., Valparaiso, 1940; B.D., Concordia Seminary, 1941.
- Arnulfo Simeón Martínez—Education and Spanish.
 Thesis: *A Study of the Scholastic Census of the Spanish-Speaking Children of Texas.*
 B.A., Texas, 1939.
- Robert Lee Moore—Chemistry, Chemical Engineering, and Pure Mathematics.
 Thesis: *A Spectrophotometric Study of Cerium(IV) Sulfate Complex Formation.*
 B.A., North Texas State Teachers College, 1942.
- Fred John Morris—Physics and Mathematics.
 Thesis: *A Study of the String Galvanometer.*
 B.S., Texas College of Arts and Industries, 1942.
- Carl Ellis Nelson—Education and Sociology.
 Thesis: *Guidance Principles Applied to Theological Education.*
 B.A., Austin College, 1937.
- Sister M. Boniface O'Neill—French, English, and Spanish.
 Thesis: *Social Classes and Problems of Contemporary France as Depicted in the Novels of René Bazin.*
 B.A., Incarnate Word College, 1943.
- Dorothy Clyde Porter—Sociology, Economics, and History.
 Thesis: *War Comes to Marshall: A Description of Changes Induced by War.*
 B.A., Texas State College for Women, 1924.
- Mrs. Esther Ellen Brodnax Stapp—Spanish and English.
 Thesis: *Characteristics of Femininity in Emilia Pardo Bazán's Fiction.*
 B.A., Texas, 1941.
- Mary Summers—Spanish, English, and Education.
 Thesis: *A Comparative Study of the Stories and Tales of Fernán Caballero and Antonio de Trueba.*
 B.A., Texas, 1920.

Master in Business Administration

- Lillis Marie Fisher—Business Administration and Education.
 Thesis: *A Functional Commercial Course of Study—Roswell, New Mexico.*
 B.B.A., Texas, 1936.

Welles Farrington Jackson—Business Administration and Psychology.

Thesis: *Airport Organization.*
B.B.A., Texas, 1943.

Orville Ewing Patterson, Jr.—Business Administration.

Thesis: *An Examination of Recent Arguments for and against Monopoly or Competition in International Air Transportation.*
B.S., McMurry College, 1930.

Master of Education

Horace Noel Browning—Education, English, and History.

Thesis: *A Comparison of the Spanish-Speaking and English-Speaking Children in Nine Schools over a Four-Year Period.*
B.A., Texas, 1933.

Mrs. Vera Walsh Morris—Education and Physiology.

Thesis: *A Study of the Socio-Economic Status of Girl Scouts of Austin, Texas.*
B.S. in Ed., Texas College of Arts and Industries, 1942.

George Monroe Sullivan—Education and Greek.

Thesis: *The Development of Education in Sterling County, Texas.*
B.A., Daniel Baker College, 1932.

Master of Science in Chemical Engineering

Bill Randall Randall—Chemical Engineering and Mechanical Engineering.

Thesis: *Vapor-Liquid Equilibria of the System n-Heptane—n-Heptene-2—Aniline and Component Binaries.*
B.S. in Ch.E., Texas, 1942.

Robert Van Osdell West—Chemical Engineering, Petroleum Engineering, and Chemistry.

Thesis: *The Effects of Different Clays on the Properties of Re-Refined Aircraft Engine Oils.*
B.S. in Ch.E., Texas, 1942.

Master of Science in Petroleum Engineering

Richard MacGregor Darling—Petroleum Engineering, Chemistry, and Applied Mathematics.

Thesis: *Relation of Particle-Size and Mineral Distribution to the Physical Properties of Gulf Coast Drilling Muds.*
B.S. in P.E., Colorado School of Mines, 1941.

Master of Science in Sanitary Engineering

Luis Pachon Rojas—Civil Engineering, Mechanical and Chemical Engineering, and Bacteriology.

Thesis: *An Experimental Study of the Contact Aeration Process of Sewage Treatment.*
B.S. in C.E., Massachusetts Institute of Technology, 1934.

Master of Science in Home Economics

Bonnie Imogene Underwood—Home Economics and Botany.

Thesis: *A Study of the Quality of Thirty-Seven Samples of State and Out-of-State Canned Tomatoes Purchased in Austin.*
B.S., Colorado State College, 1941.

Georgia Ellen Wright—Home Economics, Economics, and Education.

Thesis: *Work Clothes for Women in Some War Industries in Texas.*
B.S. in H.E., Texas, 1929.

Katherine Young—Home Economics and Sociology.

Thesis: *A Study of Some of the Food Storage Practices Used by Seventy-Five Families in Travis County.*
B.S., Texas State College for Women, 1938.

SUMMER TERM, 1944

August 31, 1944

Doctor of Philosophy

James Orval Filbeck—History and Philosophy of Education, Educational Psychology, and History of Philosophy.

Thesis: *The Christian Evidence Movement as Related to American Schools.*
B.S., East Texas State Teachers College, 1937; M.S., 1938.

James William Morris—Chemical Engineering, Chemistry, and Applied Mathematics and Electrical Engineering.

Thesis: *Preparation of Pure Methylcyclohexane from a Petroleum Fraction by the Distex Process.*
B.S. in Ch.E., Texas, 1940; M.S. in Ch.E., 1941.

Mrs. Eleanor Damon Pace—Modern European History, American History, and Economics.
Thesis: *Roumania and the Balkan Wars.*

B.A., Texas, 1922; M.A., 1927.

Clarence Edmund Rannefeld—Organic Chemistry, Chemical Engineering, and Physical Chemistry.

Thesis: *Acidic Material from Petroleum; Isopropylation of Some Ketones.*
B.S. in Ch.E., Texas Technological College, 1938; M.S., 1940.

Isabel Elizabeth Stiles—Botany and Cytology.

Thesis: *The Relation of Water to the Germination of Seed.*
B.S., North Texas State Teachers College, 1926; M.S., Wisconsin, 1930.

Doctor of Education

Selma Ernestine Herr—Curriculum and Instruction, Educational Psychology, and Educational Administration.

Thesis: *The Effect of Pre-First Grade Training upon Reading Readiness and Reading Achievement among Spanish American Children in the First Grade.*
B.S. in Ed., Northern State Teachers College (South Dakota), 1930; M.A., Montana, 1935.

Theodore Quarles Srygley—Curriculum and Instruction, Educational Administration, and Educational Psychology.

Thesis: *The Development of a Program to Meet the Needs of High School Pupils.*
B.S. in Chem., Vanderbilt, 1924; M.A., George Peabody College, 1929.

Master of Arts

Austin James Burkhart—History and Government.

Thesis: *The Seizure of Enemy Alien Property by the United States Government during the First World War, 1917-1918.*

B.S., State Teachers College (Lock Haven, Arkansas), 1935; M.A., Arkansas, 1936; B.A., Texas, 1942.

Mrs. Nettie Boyd Byers—Education and English.

Thesis: *An Experimental Study of the Reading Disability Problem in Madisonville Senior High School.*

B.A., Sam Houston State Teachers College, 1931.

Sister M. Emmanuel Cahill—English and History.

Thesis: *A Study of the Anonymous "True Tragedie of Richard the Third."*
B.A., St. Mary's, 1943.

Mrs. Lucile Lange Dufner—History, Education, and Sociology.

Thesis: *The Flags of the Confederate States of America.*
B.A., Southwest Texas State Teachers College, 1929.

Ethel Sadie Farabee—History and Sociology.

Thesis: *The Career of William Stuart Parrott, Business Man and Diplomat in Mexico.*
B.A., Texas, 1928.

Mrs. Marjorie Ice Irwin—History and English.

Thesis: *The Development of Rhode Island as a Corporate Colony.*
B.A., Flora Stone Mather College of Western Reserve, 1940.

Mrs. Sallie Baker Johnson—Education, English, and Library Science.

Thesis: *A Survey of Junior High School Libraries in Texas.*
B.A., Texas, 1911.

Joseph Byron Jones—Education and Physics.

Thesis: *A Study of Student Coöperation in Secondary Schools with a Proposed Plan of Coöperative Control for the Secondary Schools of El Paso, Texas.*
B.A., Texas, 1926.

Florence Carmelita Klipple—English and German.

Thesis: *A Study of the Speech of Spicewood, Texas.*

Beverly Howard McGuire—Education and History.

Thesis: *A Study of High School Failures in Hearne, Texas.*
B.A., Texas, 1941.

Mrs. Eloise Corse McJilton—Education and English.

Thesis: *Appreciations, Attitudes, Concepts and Ideals Found in the Literature of the Southwest for Children of the Upper Elementary Grades.*
B.A., Texas Christian, 1935.

Norman Laird McNeil—Spanish, Education, and Anthropology.

Thesis: *"Corridos de Asuntos Vulgares" Corresponding to the "Romances Vulgares" of the Spanish.*
B.A., Texas, 1937.

Milton Andrew Bierbaum Maxwell—Sociology and History.

Thesis: *The Social Thought of Walter Lippmann.*

B.A., Elmhurst College, 1929; B.D., Chicago Theological Seminary, 1931.

Stuart Stoner Nesbitt—Chemistry and Physics.

Thesis: *The Preparation and Properties of Certain Alkoxyacetraldehydes.*
B.S., Monmouth College, 1943.

Lila Rhea Norwood—English and History.

Thesis: *A Literary History of Joel Chandler Harris's "Uncle Remus."*
B.A., East Texas State Teachers College, 1943.

Sister M. Carola Pousson—Spanish, French, and Portuguese.

Thesis: *Juan Bautista Diamante's "El Cerco de Zamora," Edited with Introduction and Notes.*

B.A., Our Lady of the Lake College, 1938.

Zoraster Robert Robinson—Education and Zoology.

Thesis: *A Proposed Plan for the Reorganization of the Schools of Leon County, Texas.*

Roberto Garza Sánchez—Spanish, French, and Portuguese.

Thesis: *El Personaje de Doña Juana la Loca en Dos Obras del Teatro Español.*
B.A., Texas, 1943.

Edwin Reese Sharpe—Education, Economics, and Government.

Thesis: *A Survey and a Proposed Plan for the Reorganization of the Public Schools of Gregg County, Texas.*

B.S., Stephen F. Austin State Teachers College, 1929.

Blanche Loree Smith—Education and History.

Thesis: *Safety Practices in Elementary Schools.*

B.A., Baylor, 1930.

Sarah Virginia Taylor—English and Education.

Thesis: *A Study of the Influence of Italy and Her Culture upon the Life and Works of John Milton.*

B.A., The Rice Institute, 1934.

Mrs. Florence Leona Wilson—Latin, English, and Education.

Thesis: *Roman Life as Reflected in the Poems of Catullus.*
B.A., Bellevue College, 1911.

Thomas Ray Wilson—History and Government.

Thesis: *William Walker and the Filibustering Expedition to Lower California and Sonora.*

B.S., Agricultural and Mechanical College of Texas, 1942.

Master in Business Administration

Stella Cobb—Business Administration.

Thesis: *Secretarial Opportunities in Business for Men.*
B.B.A., Texas, 1933.

Master of Education

Herman Barkley—Education, Economics, and History.

Thesis: *An Administrative Survey of a Portion of Williamson County, Texas, with a Proposed Plan for the Reorganization of the Schools of the Entire County.*
B.S., Southwest Texas State Teachers College, 1931.

Mary Katherine Baxter—Education and History.

Thesis: *Far-Eastern and Latin-American Content in Junior High School Social Studies in Texas.*

B.A., Southwest Texas State Teachers College, 1936.

Warford Wendling Farrar—Education, Drama, and History.

Thesis: *A Method of Using Creative Activities in Teaching English and Social Studies on Junior High School Level.*
B.A., California, 1937.

Mrs. Leona Johnson Grimes—Education, English, and Sociology.

Thesis: *An Experimental Study of the Relationship between Personality and Reading Success in the Primary Grades.*
B.S. in Ed., Texas, 1941.

Donald Emmett Irwin—Education, English, and Speech.

Thesis: *A Guidance Plan for the Study of Figurative Language in the High School English Course.*
B.S. in Ed., Texas, 1938.

Marvin Carl Schnelle—Education, English, and German.

Thesis: *Newspaper Publicity in the Improvement of the Nordheim Schools.*
B.S. in Ed., Texas, 1936.

Betty Jayne Styer—Education, Architecture, and Art.

Thesis: *A Program for Raising the Level of Taste through the Teaching of Art Appreciation in the Secondary Schools.*
B.A., Iowa, 1939.

Ruth Triplett—Education and Sociology.

Thesis: *A Comparative Study of Well Adjusted and Poorly Adjusted Children in a Junior High School.*
B.A., Baylor, 1937.

Mrs. Jeannette Giles Wilkes—Education, Government, and History.

Thesis: *School Savings Banking in the Texas Public Schools.*
B.S. in Ed., Texas, 1930.

Master of Science in Home Economics

Mrs. Evelyn Elwell Ranck—Home Economics, Architecture, and Psychology.

Thesis: *A Study of Raw Food Costs for the Months of March, April, and May, 1944, in the Four Navy V-12 Messing Units at The University of Texas.*
B.S. in H.E., Illinois, 1943.

Master of Music

(in Music Education)

Ward Guenther Brandstetter—Music and Education.

Thesis: *A Study of Attitude in Relation to Musical Accomplishment.*
B.S., Southwest Texas State Teachers College, 1931.

STATISTICAL SUMMARIES
DEGREES CONFERRED IN THE GRADUATE SCHOOL

	Conferred in 1941			Conferred in 1942		
	Men	Women	Both	Men	Women	Both
Doctor of Philosophy	40	12	52	48	9	57
Doctor of Education	1	0	1	10	0	10
Master of Arts	98	87	185	54	74	128
Master in Business Administration	16	3	19	6	3	9
Master of Journalism	1	0	1	1	0	1
Master of Science	0	0	0	0	0	0
Master of Science in Home Economics	0	4	4	0	9	9
Master of Education	39	21	60	18	23	41
Master of Science in Architecture	0	0	0	0	0	0
Master of Science in Architectural Engineering	1	0	1	0	0	0
Master of Science in Chemical Engineering	12	0	12	9	0	9
Master of Science in Civil Engineering	2	0	2	1	0	1
Master of Science in Electrical Engineering	1	0	1	1	0	1
Master of Science in Mechanical Engineering	1	0	1	0	0	0
Master of Science in Petroleum Engineering	9	0	9	3	0	3
Master of Science in Sanitary Engineering	0	0	0	0	0	0
Total	221	127	348	151	118	269

	Conferred in 1943			Conferred in 1944		
	Men	Women	Both	Men	Women	Both
Doctor of Philosophy	26	2	28	16	2	18
Doctor of Education	4	1	5	1	1	2
Master of Arts	34	40	74	30	34	64
Master in Business Administration	5	2	7	4	2	6
Master of Education	4	17	21	7	8	15
Master of Journalism	0	0	0	0	0	0
Master of Music	0	1	1	1	0	1
Master of Science	0	0	0	0	0	0
Master of Science in Home Economics	0	2	2	0	7	7
Master of Science in Medicine	1	0	1	0	0	0
Master of Science in Aeronautical Engineering	0	0	0	1	0	1
Master of Science in Architecture	0	0	0	0	0	0
Master of Science in Architectural Engineering	0	0	0	0	0	0
Master of Science in Chemical Engineering	3	0	3	3	0	3
Master of Science in Civil Engineering	2	0	2	1	0	1
Master of Science in Electrical Engineering	0	0	0	0	0	0
Master of Science in Mechanical Engineering	2	0	2	1	0	1
Master of Science in Petroleum Engineering	2	0	2	1	0	1
Master of Science in Sanitary Engineering	1	0	1	1	0	1
Total	84	65	149	67	54	121

Total Conferred
1886-1944

	Men	Women	Both
Doctor of Philosophy	405	86	491
Doctor of Education	22	2	24
Master of Arts	2,023	1,976	3,999
Master in Business Administration	245	47	292
Master of Education	287	214	501
Master of Journalism	19	13	32
Master of Music	1	1	2
Master of Science	21	13	34
Master of Science in Home Economics	—	67	67
Master of Science in Medicine	1	—	1
Master of Science in Aeronautical Engineering	1	—	1
Master of Science in Architecture	7	1	8
Master of Science in Architectural Engineering	2	—	2
Master of Science in Chemical Engineering	115	1	116
Master of Science in Civil Engineering	32	—	32
Master of Science in Electrical Engineering	57	—	57
Master of Science in Mechanical Engineering	27	—	27
Master of Science in Petroleum Engineering	25	—	25
Master of Science in Sanitary Engineering	4	—	4
Total	3,294	2,421	5,715

REGISTRATION IN THE GRADUATE SCHOOL

	1940-1941			1941-1942			1942-1943			1943-1944		
	Men	Women	Both									
Long Session	654	278	932*	478	236	714†	268	165	433	251	203	454

	1941			1942		
	Men	Women	Both	Men	Women	Both
Summer Session						
First term	652	784	1,436	334	488	822
Second term	416	396	812	235	296	531
‡Intersession	e.	—	—	6	1	7
Total registration	1,068	1,180	2,248	575	785	1,360
Net individuals	783	933	1,716	404	595	999

	1943			1944		
	Men	Women	Both	Men	Women	Both
Summer Session						
Summer term	187	272	459	190	280	470
§Intersession or June term	100	100	200	32	51	83
Total registration	287	372	659	222	331	553
Net individuals	224	312	536	203	306	509

*The differences between these figures and those given in Publication No. 4116, Part V of the Catalogue, General Information, is explained by the fact that 6 men and 7 women registered in the Graduate School too late to be included in the statistical summaries of Publication No. 4116.

†Two men registered in the Graduate School too late to be included in the statistical summaries of Publication No. 4216, Part V of the Catalogue, General Information.

‡There was no Intersession in the summer of 1941.

§In the summer of 1943, the short term was called the Intersession; in the summer of 1944, the June Term.

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